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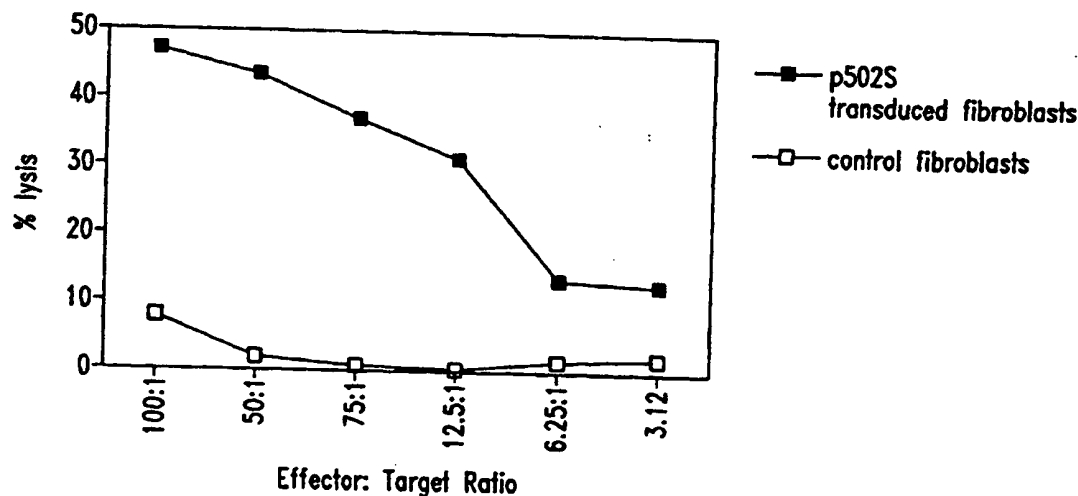
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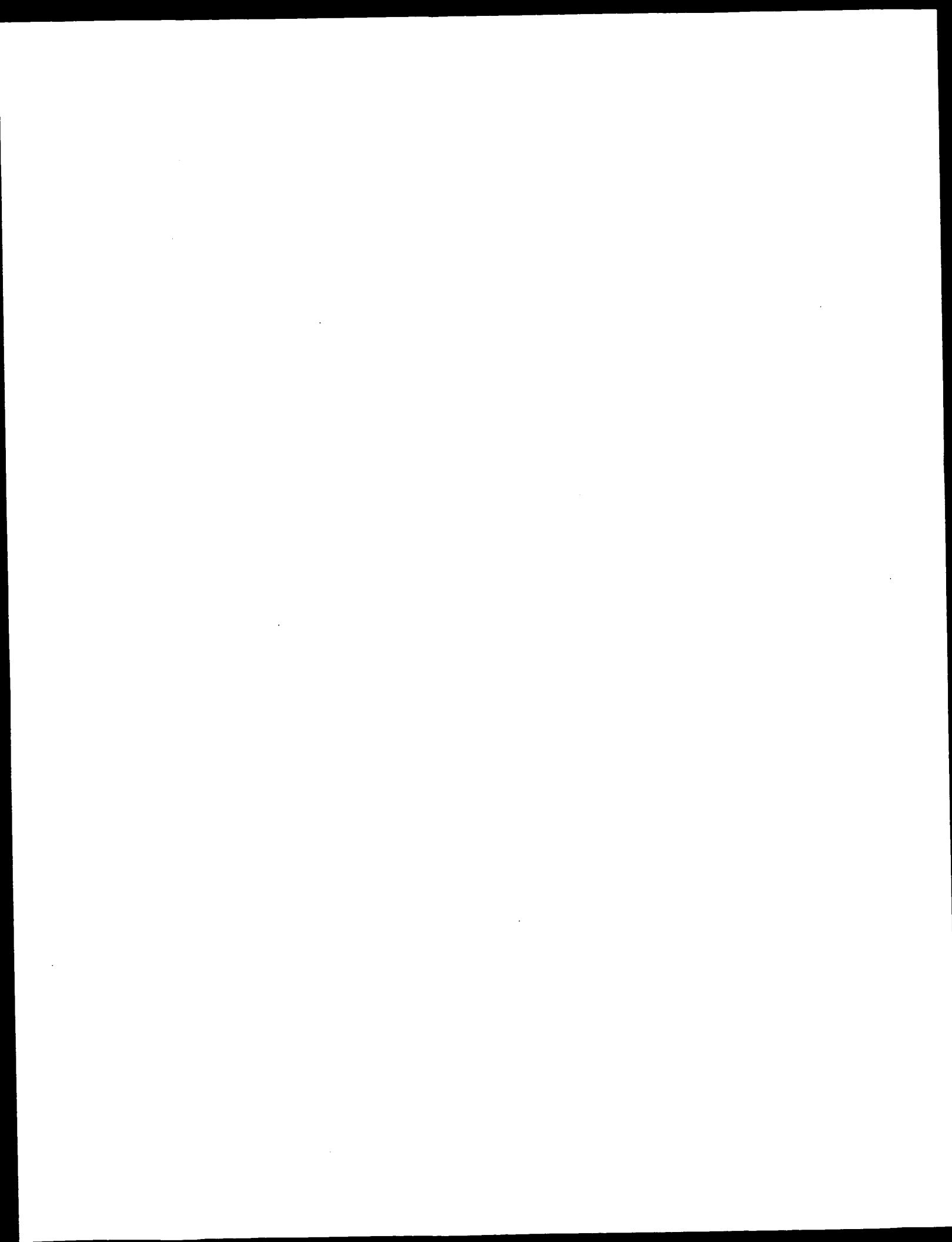
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(54) Title: **COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER**



(57) Abstract: Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.

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COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER

TECHNICAL FIELD

The present invention relates generally to therapy and diagnosis of cancer, such as prostate cancer. The invention is more specifically related to polypeptides comprising at least a portion of a prostate tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and treatment of prostate cancer, and for the diagnosis and monitoring of such cancers.

BACKGROUND OF THE INVENTION

Prostate cancer is the most common form of cancer among males, with an estimated incidence of 30% in men over the age of 50. Overwhelming clinical evidence shows that human prostate cancer has the propensity to metastasize to bone, and the disease appears to progress inevitably from androgen dependent to androgen refractory status, leading to increased patient mortality. This prevalent disease is currently the second leading cause of cancer death among men in the U.S.

In spite of considerable research into therapies for the disease, prostate cancer remains difficult to treat. Commonly, treatment is based on surgery and/or radiation therapy, but these methods are ineffective in a significant percentage of cases. Two previously identified prostate specific proteins - prostate specific antigen (PSA) and prostatic acid phosphatase (PAP) - have limited therapeutic and diagnostic potential. For example, PSA levels do not always correlate well with the presence of prostate cancer, being positive in a percentage of non-prostate cancer cases, including benign prostatic hyperplasia (BPH). Furthermore, PSA measurements correlate with prostate volume, and do not indicate the level of metastasis.

In spite of considerable research into therapies for these and other cancers, prostate cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating

such cancers. The present invention fulfills these needs and further provides other related advantages.

SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as prostate cancer. In one aspect, the present invention provides polypeptides comprising at least a portion of a prostate tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; (b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and (c) complements of any of the sequence of (a) or (b). In certain specific embodiments, such a polypeptide comprises at least a portion, or variant thereof, of a tumor protein that includes an amino acid sequence selected from the group consisting of sequences recited in any one of SEQ ID NO: 112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a prostate tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and a non-specific immune response enhancer.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a prostate tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a non-specific immune response enhancer.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.

Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a non-specific immune response enhancer.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a prostate tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be prostate cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount

detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached drawings. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

BRIEF DESCRIPTION OF THE DRAWINGS AND SEQUENCE IDENTIFIERS

Figure 1 illustrates the ability of T cells to kill fibroblasts expressing the representative prostate tumor polypeptide P502S, as compared to control fibroblasts. The percentage lysis is shown as a series of effector:target ratios, as indicated.

Figures 2A and 2B illustrate the ability of T cells to recognize cells expressing the representative prostate tumor polypeptide P502S. In each case, the number of γ -interferon spots is shown for different numbers of responders. In Figure 2A, data is presented for fibroblasts pulsed with the P2S-12 peptide, as compared to fibroblasts pulsed with a control E75 peptide. In Figure 2B, data is presented for fibroblasts expressing P502S, as compared to fibroblasts expressing HER-2/*neu*.

Figure 3 represents a peptide competition binding assay showing that the P1S#10 peptide, derived from P501S, binds HLA-A2. Peptide P1S#10 inhibits HLA-A2 restricted presentation of fluM58 peptide to CTL clone D150M58 in TNF release bioassay. D150M58 CTL is specific for the HLA-A2 binding influenza matrix peptide fluM58.

Figure 4 illustrates the ability of T cell lines generated from P1S#10 immunized mice to specifically lyse P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat A2Kb targets, as compared to EGFP-transduced Jurkat A2Kb. The percent lysis is shown as a series of effector to target ratios, as indicated.

Figure 5 illustrates the ability of a T cell clone to recognize and specifically lyse Jurkat A2Kb cells expressing the representative prostate tumor polypeptide P501S, thereby demonstrating that the P1S#10 peptide may be a naturally processed epitope of the P501S polypeptide.

Figures 6A and 6B are graphs illustrating the specificity of a CD8⁺ cell line (3A-1) for a representative prostate tumor antigen (P501S). Figure 6A shows the results of a ⁵¹Cr release assay. The percent specific lysis is shown as a series of effector:target ratios, as indicated. Figure 6B shows the production of interferon-gamma by 3A-1 cells stimulated with autologous B-LCL transduced with P501S, at varying effector:target ratios as indicated.

SEQ ID NO: 1 is the determined cDNA sequence for F1-13

SEQ ID NO: 2 is the determined 3' cDNA sequence for F1-12

SEQ ID NO: 3 is the determined 5' cDNA sequence for F1-12

SEQ ID NO: 4 is the determined 3' cDNA sequence for F1-16

SEQ ID NO: 5 is the determined 3' cDNA sequence for H1-1

SEQ ID NO: 6 is the determined 3' cDNA sequence for H1-9

SEQ ID NO: 7 is the determined 3' cDNA sequence for H1-4

SEQ ID NO: 8 is the determined 3' cDNA sequence for J1-17

SEQ ID NO: 9 is the determined 5' cDNA sequence for J1-17

SEQ ID NO: 10 is the determined 3' cDNA sequence for L1-12

SEQ ID NO: 11 is the determined 5' cDNA sequence for L1-12

SEQ ID NO: 12 is the determined 3' cDNA sequence for N1-1862

SEQ ID NO: 13 is the determined 5' cDNA sequence for N1-1862

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SEQ ID NO: 246 is the determined cDNA sequence for JPTPN56
SEQ ID NO: 247 is the determined cDNA sequence for PTPN64
SEQ ID NO: 248 is the determined cDNA sequence for JPTPN65
SEQ ID NO: 249 is the determined cDNA sequence for JPTPN67
SEQ ID NO: 250 is the determined cDNA sequence for JPTPN76
SEQ ID NO: 251 is the determined cDNA sequence for JPTPN84
SEQ ID NO: 252 is the determined cDNA sequence for JPTPN85
SEQ ID NO: 253 is the determined cDNA sequence for JPTPN86
SEQ ID NO: 254 is the determined cDNA sequence for JPTPN87
SEQ ID NO: 255 is the determined cDNA sequence for JPTPN88
SEQ ID NO: 256 is the determined cDNA sequence for JP1F1
SEQ ID NO: 257 is the determined cDNA sequence for JP1F2
SEQ ID NO: 258 is the determined cDNA sequence for JP1C2

SEQ ID NO: 259 is the determined cDNA sequence for JP1B1
SEQ ID NO: 260 is the determined cDNA sequence for JP1B2
SEQ ID NO: 261 is the determined cDNA sequence for JP1D3
SEQ ID NO: 262 is the determined cDNA sequence for JP1A4
SEQ ID NO: 263 is the determined cDNA sequence for JP1F5
SEQ ID NO: 264 is the determined cDNA sequence for JP1E6
SEQ ID NO: 265 is the determined cDNA sequence for JP1D6
SEQ ID NO: 266 is the determined cDNA sequence for JP1B5
SEQ ID NO: 267 is the determined cDNA sequence for JP1A6
SEQ ID NO: 268 is the determined cDNA sequence for JP1E8
SEQ ID NO: 269 is the determined cDNA sequence for JP1D7
SEQ ID NO: 270 is the determined cDNA sequence for JP1D9
SEQ ID NO: 271 is the determined cDNA sequence for JP1C10
SEQ ID NO: 272 is the determined cDNA sequence for JP1A9
SEQ ID NO: 273 is the determined cDNA sequence for JP1F12
SEQ ID NO: 274 is the determined cDNA sequence for JP1E12
SEQ ID NO: 275 is the determined cDNA sequence for JP1D11
SEQ ID NO: 276 is the determined cDNA sequence for JP1C11
SEQ ID NO: 277 is the determined cDNA sequence for JP1C12
SEQ ID NO: 278 is the determined cDNA sequence for JP1B12
SEQ ID NO: 279 is the determined cDNA sequence for JP1A12
SEQ ID NO: 280 is the determined cDNA sequence for JP8G2
SEQ ID NO: 281 is the determined cDNA sequence for JP8H1
SEQ ID NO: 282 is the determined cDNA sequence for JP8H2
SEQ ID NO: 283 is the determined cDNA sequence for JP8A3
SEQ ID NO: 284 is the determined cDNA sequence for JP8A4
SEQ ID NO: 285 is the determined cDNA sequence for JP8C3
SEQ ID NO: 286 is the determined cDNA sequence for JP8G4
SEQ ID NO: 287 is the determined cDNA sequence for JP8B6
SEQ ID NO: 288 is the determined cDNA sequence for JP8D6

SEQ ID NO: 289 is the determined cDNA sequence for JP8F5
SEQ ID NO: 290 is the determined cDNA sequence for JP8A8
SEQ ID NO: 291 is the determined cDNA sequence for JP8C7
SEQ ID NO: 292 is the determined cDNA sequence for JP8D7
SEQ ID NO: 293 is the determined cDNA sequence for P8D8
SEQ ID NO: 294 is the determined cDNA sequence for JP8E7
SEQ ID NO: 295 is the determined cDNA sequence for JP8F8
SEQ ID NO: 296 is the determined cDNA sequence for JP8G8
SEQ ID NO: 297 is the determined cDNA sequence for JP8B10
SEQ ID NO: 298 is the determined cDNA sequence for JP8C10
SEQ ID NO: 299 is the determined cDNA sequence for JP8E9
SEQ ID NO: 300 is the determined cDNA sequence for JP8E10
SEQ ID NO: 301 is the determined cDNA sequence for JP8F9
SEQ ID NO: 302 is the determined cDNA sequence for JP8H9
SEQ ID NO: 303 is the determined cDNA sequence for JP8C12
SEQ ID NO: 304 is the determined cDNA sequence for JP8E11
SEQ ID NO: 305 is the determined cDNA sequence for JP8E12
SEQ ID NO: 306 is the amino acid sequence for the peptide PS2#12
SEQ ID NO: 307 is the determined cDNA sequence for P711P
SEQ ID NO: 308 is the determined cDNA sequence for P712P
SEQ ID NO: 309 is the determined cDNA sequence for CLONE23
SEQ ID NO: 310 is the determined cDNA sequence for P774P
SEQ ID NO: 311 is the determined cDNA sequence for P775P
SEQ ID NO: 312 is the determined cDNA sequence for P715P
SEQ ID NO: 313 is the determined cDNA sequence for P710P
SEQ ID NO: 314 is the determined cDNA sequence for P767P
SEQ ID NO: 315 is the determined cDNA sequence for P768P
SEQ ID NO: 316-325 are the determined cDNA sequences of previously isolated genes
SEQ ID NO: 326 is the determined cDNA sequence for P703PDE5
SEQ ID NO: 327 is the predicted amino acid sequence for P703PDE5

SEQ ID NO: 328 is the determined cDNA sequence for P703P6.26

SEQ ID NO: 329 is the predicted amino acid sequence for P703P6.26

SEQ ID NO: 330 is the determined cDNA sequence for P703PX-23

SEQ ID NO: 331 is the predicted amino acid sequence for P703PX-23

SEQ ID NO: 332 is the determined full length cDNA sequence for P509S

SEQ ID NO: 333 is the determined extended cDNA sequence for P707P (also referred to as 11-C9)

SEQ ID NO: 334 is the determined cDNA sequence for P714P

SEQ ID NO: 335 is the determined cDNA sequence for P705P (also referred to as 9-F3)

SEQ ID NO: 336 is the predicted amino acid sequence for P705P

SEQ ID NO: 337 is the amino acid sequence of the peptide P1S#10

SEQ ID NO: 338 is the amino acid sequence of the peptide p5

SEQ ID NO: 339 is the predicted amino acid sequence of P509S

SEQ ID NO: 340 is the determined cDNA sequence for P778P

SEQ ID NO: 341 is the determined cDNA sequence for P786P

SEQ ID NO: 342 is the determined cDNA sequence for P789P

SEQ ID NO: 343 is the determined cDNA sequence for a clone showing homology to Homo sapiens MM46 mRNA

SEQ ID NO: 344 is the determined cDNA sequence for a clone showing homology to Homo sapiens TNF-alpha stimulated ABC protein (ABC50) mRNA

SEQ ID NO: 345 is the determined cDNA sequence for a clone showing homology to Homo sapiens mRNA for E-cadherin

SEQ ID NO: 346 is the determined cDNA sequence for a clone showing homology to Human nuclear-encoded mitochondrial serine hydroxymethyltransferase (SHMT)

SEQ ID NO: 347 is the determined cDNA sequence for a clone showing homology to Homo sapiens natural resistance-associated macrophage protein2 (NRAMP2)

SEQ ID NO: 348 is the determined cDNA sequence for a clone showing homology to Homo sapiens phosphoglucomutase-related protein (PGMRP)

SEQ ID NO: 349 is the determined cDNA sequence for a clone showing homology to Human mRNA for proteosome subunit p40

SEQ ID NO: 350 is the determined cDNA sequence for P777P

SEQ ID NO: 351 is the determined cDNA sequence for P779P

SEQ ID NO: 352 is the determined cDNA sequence for P790P

SEQ ID NO: 353 is the determined cDNA sequence for P784P

SEQ ID NO: 354 is the determined cDNA sequence for P776P

SEQ ID NO: 355 is the determined cDNA sequence for P780P

SEQ ID NO: 356 is the determined cDNA sequence for P544S

SEQ ID NO: 357 is the determined cDNA sequence for P745S

SEQ ID NO: 358 is the determined cDNA sequence for P782P

SEQ ID NO: 359 is the determined cDNA sequence for P783P

SEQ ID NO: 360 is the determined cDNA sequence for unknown 17984

SEQ ID NO: 361 is the determined cDNA sequence for P787P

SEQ ID NO: 362 is the determined cDNA sequence for P788P

SEQ ID NO: 363 is the determined cDNA sequence for unknown 17994

SEQ ID NO: 364 is the determined cDNA sequence for P781P

SEQ ID NO: 365 is the determined cDNA sequence for P785P

SEQ ID NO: 366-375 are the determined cDNA sequences for splice variants of B305D.

SEQ ID NO: 376 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 366.

SEQ ID NO: 377 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 372.

SEQ ID NO: 378 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 373.

SEQ ID NO: 379 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 374.

SEQ ID NO: 380 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 375.

SEQ ID NO: 381 is the determined cDNA sequence for B716P.
SEQ ID NO: 382 is the determined full-length cDNA sequence for P711P.
SEQ ID NO: 383 is the predicted amino acid sequence for P711P.
SEQ ID NO: 384 is the cDNA sequence for P1000C.
SEQ ID NO: 385 is the cDNA sequence for CGI-82.
SEQ ID NO:386 is the cDNA sequence for 23320.
SEQ ID NO:387 is the cDNA sequence for CGI-69.
SEQ ID NO:388 is the cDNA sequence for L-iditol-2-dehydrogenase.
SEQ ID NO:389 is the cDNA sequence for 23379.
SEQ ID NO:390 is the cDNA sequence for 23381.
SEQ ID NO:391 is the cDNA sequence for KIAA0122.
SEQ ID NO:392 is the cDNA sequence for 23399.
SEQ ID NO:393 is the cDNA sequence for a previously identified gene.
SEQ ID NO:394 is the cDNA sequence for HCLBP.
SEQ ID NO:395 is the cDNA sequence for transglutaminase.
SEQ ID NO:396 is the cDNA sequence for a previously identified gene.
SEQ ID NO:397 is the cDNA sequence for PAP.
SEQ ID NO:398 is the cDNA sequence for Ets transcription factor PDEF.
SEQ ID NO:399 is the cDNA sequence for hTGR.
SEQ ID NO:400 is the cDNA sequence for KIAA0295.
SEQ ID NO:401 is the cDNA sequence for 22545.
SEQ ID NO:402 is the cDNA sequence for 22547.
SEQ ID NO:403 is the cDNA sequence for 22548.
SEQ ID NO:404 is the cDNA sequence for 22550.
SEQ ID NO:405 is the cDNA sequence for 22551.
SEQ ID NO:406 is the cDNA sequence for 22552.
SEQ ID NO:407 is the cDNA sequence for 22553.
SEQ ID NO:408 is the cDNA sequence for 22558.
SEQ ID NO:409 is the cDNA sequence for 22562.
SEQ ID NO:410 is the cDNA sequence for 22565.

SEQ ID NO:411 is the cDNA sequence for 22567.
SEQ ID NO:412 is the cDNA sequence for 22568.
SEQ ID NO:413 is the cDNA sequence for 22570.
SEQ ID NO:414 is the cDNA sequence for 22571.
SEQ ID NO:415 is the cDNA sequence for 22572.
SEQ ID NO:416 is the cDNA sequence for 22573.
SEQ ID NO:417 is the cDNA sequence for 22573.
SEQ ID NO:418 is the cDNA sequence for 22575.
SEQ ID NO:419 is the cDNA sequence for 22580.
SEQ ID NO:420 is the cDNA sequence for 22581.
SEQ ID NO:421 is the cDNA sequence for 22582.
SEQ ID NO:422 is the cDNA sequence for 22583.
SEQ ID NO:423 is the cDNA sequence for 22584.
SEQ ID NO:424 is the cDNA sequence for 22585.
SEQ ID NO:425 is the cDNA sequence for 22586.
SEQ ID NO:426 is the cDNA sequence for 22587.
SEQ ID NO:427 is the cDNA sequence for 22588.
SEQ ID NO:428 is the cDNA sequence for 22589.
SEQ ID NO:429 is the cDNA sequence for 22590.
SEQ ID NO:430 is the cDNA sequence for 22591.
SEQ ID NO:431 is the cDNA sequence for 22592.
SEQ ID NO:432 is the cDNA sequence for 22593.
SEQ ID NO:433 is the cDNA sequence for 22594.
SEQ ID NO:434 is the cDNA sequence for 22595.
SEQ ID NO:435 is the cDNA sequence for 22596.
SEQ ID NO:436 is the cDNA sequence for 22847.
SEQ ID NO:437 is the cDNA sequence for 22848.
SEQ ID NO:438 is the cDNA sequence for 22849.
SEQ ID NO:439 is the cDNA sequence for 22851.
SEQ ID NO:440 is the cDNA sequence for 22852.

SEQ ID NO:441 is the cDNA sequence for 22853.
SEQ ID NO:442 is the cDNA sequence for 22854.
SEQ ID NO:443 is the cDNA sequence for 22855.
SEQ ID NO:444 is the cDNA sequence for 22856.
SEQ ID NO:445 is the cDNA sequence for 22857.
SEQ ID NO:446 is the cDNA sequence for 23601.
SEQ ID NO:447 is the cDNA sequence for 23602.
SEQ ID NO:448 is the cDNA sequence for 23605.
SEQ ID NO:449 is the cDNA sequence for 23606.
SEQ ID NO:450 is the cDNA sequence for 23612.
SEQ ID NO:451 is the cDNA sequence for 23614.
SEQ ID NO:452 is the cDNA sequence for 23618.
SEQ ID NO:453 is the cDNA sequence for 23622.
SEQ ID NO:454 is the cDNA sequence for folate hydrolase.
SEQ ID NO:455 is the cDNA sequence for LIM protein.
SEQ ID NO:456 is the cDNA sequence for a known gene.
SEQ ID NO:457 is the cDNA sequence for a known gene.
SEQ ID NO:458 is the cDNA sequence for a previously identified gene.
SEQ ID NO:459 is the cDNA sequence for 23045.
SEQ ID NO:460 is the cDNA sequence for 23032.
SEQ ID NO:461 is the cDNA sequence for 23054.
SEQ ID NOs:462-467 are cDNA sequences for known genes.
SEQ ID NOs:468-471 are cDNA sequences for P710P.
SEQ ID NO:472 is a cDNA sequence for P1001C.
SEQ ID NO:473 is the amino acid sequence for PSMA.
SEQ ID NO:474 is the amino acid sequence for PAP.
SEQ ID NO:475 is the amino acid sequence for PSA.
SEQ ID NO:476 is the amino acid sequence for a fusion protein containing PSA, P703P and P501S.

DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer. The compositions described herein may include prostate tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a prostate tumor protein or a variant thereof. A "prostate tumor protein" is a protein that is expressed in prostate tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain prostate tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with prostate cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding fragments thereof, that are capable of binding to a polypeptide as described above. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.

The present invention is based on the discovery of human prostate tumor proteins. Sequences of polynucleotides encoding certain tumor proteins, or portions thereof, are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Sequences of polypeptides comprising at least a portion of a tumor protein are provided in SEQ ID NOs:112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

PROSTATE TUMOR PROTEIN POLYNUCLEOTIDES

Any polynucleotide that encodes a prostate tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a prostate tumor protein. More preferably, a polynucleotide encodes an immunogenic portion of a prostate tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.*, an endogenous sequence that encodes a prostate tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity to a polynucleotide sequence that encodes a native prostate tumor protein or a portion thereof.

Two polynucleotide or polypeptide sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions,

usually 30 to about 75, 40 to about 50, in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) *Atlas of Protein Sequence and Structure*, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) Unified Approach to Alignment and Phylogenies pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA* 80:726-730.

Preferably, the “percentage of sequence identity” is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (*i.e.*, gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (*i.e.*, the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are

capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native prostate tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least five fold greater in a prostate tumor than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as prostate tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

An amplified portion may be used to isolate a full length gene from a suitable library (e.g., a prostate tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (e.g., by nick-translation or end-labeling with ^{32}P) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (see Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking PCR (Parker et al., *Nucl. Acids Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (*e.g.*, NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding at least a portion of a prostate tumor protein are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Isolation of these polynucleotides is described below. Each of these prostate tumor proteins was overexpressed in prostate tumor tissue.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may

also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a prostate tumor protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (e.g., by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a prostate tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In Huber and Carr, Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (e.g., promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such as inosine, queosine and wybutosine, as well as acetyl-, methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (*e.g.*, avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

PROSTATE TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a prostate tumor protein or a variant thereof, as described herein. As noted above, a "prostate tumor protein" is a protein that is expressed by prostate tumor cells. Proteins that are prostate tumor proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with prostate cancer. Polypeptides as described herein may be of any length. Additional sequences derived from the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a prostate tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera

and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native prostate tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ¹²⁵I-labeled Protein A.

As noted above, a composition may comprise a variant of a native prostate tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native prostate tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein. Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein. Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most

preferably at least about 95% identity (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydropathic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydropathic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (*e.g.*, poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression

vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are *E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be

targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

In certain embodiments, the present invention provides fusion proteins comprising a polypeptide disclosed herein together with at least one of the following known prostate antigens: prostate specific antigen (PSA); prostatic acid phosphatase (PAP); and prostate specific membrane antigen (PSMA). The protein sequences for PSMA, PAP and PSA are provided in SEQ ID NO: 473-475, respectively. In certain embodiments, the fusion proteins of the present invention comprise PSA, PAP and/or PSMA in combination with one or more of the following the inventive antigens: P501S (amino acid sequence provided in SEQ ID NO: 113); P703P (amino acid sequences provided in SEQ ID NO: 327, 329, 331); P704P (cDNA sequence provided in SEQ ID NO: 67); P712P (cDNA sequence provided in SEQ ID NO: 308); P775P (cDNA sequence provided in SEQ ID NO: 311); P776P (cDNA sequence provided in SEQ ID NO: 354); P790P (cDNA sequence provided in SEQ ID NO: 352). The amino acid sequence of a fusion protein of PSA, P703P and P501S is provided in SEQ ID NO: 476. In preferred embodiments, the inventive fusion proteins comprise one of the following combinations of antigens: PSA and P703P; PSA and P501S; PAP and P703P; PAP and P501S; PSMA and P703P; PSMA and P501S; PSA, PAP and P703P; PSA, PAP and P501S; PSA, PAP, PSMA and P703P, PSA, PAP, PSMA and P501S. One of skill in the art will appreciate that the order of polypeptides within a fusion protein can be altered without substantially changing the therapeutic, prophylactic or diagnostic properties of the fusion protein.

The fusion proteins described above are more immunogenic and will be effective in a greater number of prostate cancer patients than any of the individual components alone. The use of multiple antigens in the form of a fusion protein also lessens the likelihood of immunologic escape.

Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide

components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see, for example, Stoute et al. New Engl. J. Med., 336:86-91, 1997*).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-

terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a prostate tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a prostate tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a prostate tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about 10^3 L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as prostate cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a prostate tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal

indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (*e.g.*, blood, sera, urine and/or tumor biopsies) from patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. *See, e.g.*, Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (*e.g.*, mice, rats, rabbits, sheep or goats). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e.*, reactivity with the polypeptide of interest). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested

by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y , ^{123}I , ^{125}I , ^{131}I , ^{186}Re , ^{188}Re , ^{211}At , and ^{212}Bi . Preferred drugs include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (*e.g.*, a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a prostate tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the CEPRATE™ system, available from CellPro Inc., Bothell WA (*see also* U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a prostate tumor polypeptide, polynucleotide encoding a prostate tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a prostate tumor polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a prostate tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively,

detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (e.g., by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a prostate tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (e.g., TNF or IFN-γ) is indicative of T cell activation (see Coligan et al., Current Protocols in Immunology, vol. 1, Wiley Interscience (Greene 1998)). T cells that have been activated in response to a prostate tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4⁺ and/or CD8⁺. Prostate tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4⁺ or CD8⁺ T cells that proliferate in response to a prostate tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a prostate tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a prostate tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a prostate tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or binding agents disclosed herein may be incorporated into pharmaceutical compositions

or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and a non-specific immune response enhancer. A non-specific immune response enhancer may be any substance that enhances an immune response to an exogenous antigen. Examples of non-specific immune response enhancers include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998, and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (*e.g.*, vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y. Acad. Sci.* 569:86-103, 1989; Flexner

et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or preservatives. Alternatively, compositions of the present invention may be

formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of non-specific immune response enhancers may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (*e.g.*, IFN- γ , IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (*e.g.*, IL-4, IL-5, IL-6, IL-10 and TNF- β) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt.

MPL adjuvants are available from Ribi ImmunoChem Research Inc. (Hamilton, MT; see US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555. Another preferred adjuvant is a saponin, preferably QS21, which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210. Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient.

The compositions described herein may be administered as part of a sustained release formulation (*i.e.*, a formulation such as a capsule or sponge that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology and administered by, for example, oral, rectal or subcutaneous implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained within a reservoir surrounded by a rate controlling membrane. Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific

immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*) and based on the lack of differentiation markers of B cells (CD19 and CD20), T cells (CD3), monocytes (CD14) and natural killer cells (CD56), as determined using standard assays. Dendritic cells may, of course, be engineered to express specific cell-surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (*see* Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF α to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into

dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF α , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc γ receptor, mannose receptor and DEC-205 marker. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (*e.g.*, CD54 and CD11) and costimulatory molecules (*e.g.*, CD40, CD80 and CD86).

APCs may generally be transfected with a polynucleotide encoding a prostate tumor protein (or portion or other variant thereof) such that the prostate tumor polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the prostate tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant bacterium or viruses (*e.g.*, vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that provides T cell help (*e.g.*, a carrier molecule). Alternatively, a dendritic cell may be

pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as prostate cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor. Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8⁺ cytotoxic T lymphocytes and CD4⁺ T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The

polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage, monocyte, fibroblast or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see*, for example, Cheever et al., *Immunological Reviews* 157:177, 1997).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g.*, intracutaneous,

intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 100 μ g to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such a response can be monitored by establishing an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in preexisting immune responses to a prostate tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more prostate tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, urine and/or tumor biopsies) obtained from

the patient. In other words, such proteins may be used as markers to indicate the presence or absence of a cancer such as prostate cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer. In general, a prostate tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. *See, e.g.,* Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding agent. Suitable polypeptides for use within such assays include full length prostate tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 μ g, and preferably about 100 ng to about 1 μ g, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.,* Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized

on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.*, incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with prostate cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed

and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as prostate cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1 μ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use prostate tumor polypeptides to detect antibodies that bind to such polypeptides in a biological sample. The detection of such prostate tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a prostate tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4⁺ and/or CD8⁺ T cells isolated from a patient is incubated with a prostate tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with prostate tumor polypeptide (*e.g.*, 5 - 25 µg/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of prostate tumor polypeptide to serve as a control. For CD4⁺ T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8⁺ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a prostate tumor protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a prostate tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the prostate tumor protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a prostate tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%,

preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a prostate tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably, oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers comprise at least 10 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375 and 381. Techniques for both PCR based assays and hybridization assays are well known in the art (*see, for example, Mullis et al., Cold Spring Harbor Symp. Quant. Biol., 51:263, 1987; Erlich ed., PCR Technology, Stockton Press, NY, 1989*).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter

performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple prostate tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a prostate tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a prostate tumor protein in a biological sample. Such kits generally comprise

at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a prostate tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a prostate tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

EXAMPLES

EXAMPLE 1

ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library was constructed from prostate tumor poly A⁺ RNA using a Superscript Plasmid System for cDNA Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD 20897) following the manufacturer's protocol. Specifically, prostate tumor tissues were homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A⁺ RNA was then purified using a Qiagen oligotex spin column mRNA purification kit (Qiagen, Santa Clarita, CA 91355) according to the manufacturer's protocol. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer. Double-stranded cDNA was synthesized, ligated with EcoRI/BAXI adaptors (Invitrogen, San Diego, CA) and digested with NotI. Following size fractionation with Chroma Spin-1000 columns (Clontech, Palo Alto, CA), the cDNA was ligated into the EcoRI/NotI site of pCDNA3.1 (Invitrogen) and transformed into ElectroMax *E. coli* DH10B cells (BRL Life Technologies) by electroporation.

Using the same procedure, a normal human pancreas cDNA expression library was prepared from a pool of six tissue specimens (Clontech). The cDNA libraries were characterized by determining the number of independent colonies, the percentage of clones that carried insert, the average insert size and by sequence analysis. The prostate tumor library contained 1.64×10^7 independent colonies, with 70% of clones having an insert and the average insert size being 1745 base pairs. The normal pancreas cDNA library contained 3.3×10^6 independent colonies, with 69% of clones

having inserts and the average insert size being 1120 base pairs. For both libraries, sequence analysis showed that the majority of clones had a full length cDNA sequence and were synthesized from mRNA, with minimal rRNA and mitochondrial DNA contamination.

cDNA library subtraction was performed using the above prostate tumor and normal pancreas cDNA libraries, as described by Hara *et al.* (*Blood*, 84:189-199, 1994) with some modifications. Specifically, a prostate tumor-specific subtracted cDNA library was generated as follows. Normal pancreas cDNA library (70 µg) was digested with EcoRI, NotI, and SfuI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol precipitation, the DNA was dissolved in 100 µl of H₂O, heat-denatured and mixed with 100 µl (100 µg) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (50 µl) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was ethanol-precipitated and dissolved in 23 µl H₂O to form the driver DNA.

To form the tracer DNA, 10 µg prostate tumor cDNA library was digested with BamHI and XhoI, phenol chloroform extracted and passed through Chroma spin-400 columns (Clontech). Following ethanol precipitation, the tracer DNA was dissolved in 5 µl H₂O. Tracer DNA was mixed with 15 µl driver DNA and 20 µl of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately transferred into a 68 °C water bath and incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12 µl H₂O, mixed with 8 µl driver DNA and 20 µl of 2 x hybridization buffer, and subjected to a hybridization at 68 °C for 2 hours (short hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA was ligated into BamHI/XhoI site of chloramphenicol resistant pBCSK⁺ (Stratagene, La Jolla, CA 92037) and transformed into ElectroMax *E.*

coli DH10B cells by electroporation to generate a prostate tumor specific subtracted cDNA library (referred to as "prostate subtraction 1").

To analyze the subtracted cDNA library, plasmid DNA was prepared from 100 independent clones, randomly picked from the subtracted prostate tumor specific library and grouped based on insert size. Representative cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A (Foster City, CA). Six cDNA clones, hereinafter referred to as F1-13, F1-12, F1-16, H1-1, H1-9 and H1-4, were shown to be abundant in the subtracted prostate-specific cDNA library. The determined 3' and 5' cDNA sequences for F1-12 are provided in SEQ ID NO: 2 and 3, respectively, with determined 3' cDNA sequences for F1-13, F1-16, H1-1, H1-9 and H1-4 being provided in SEQ ID NO: 1 and 4-7, respectively.

The cDNA sequences for the isolated clones were compared to known sequences in the gene bank using the EMBL and GenBank databases (release 96). Four of the prostate tumor cDNA clones, F1-13, F1-16, H1-1, and H1-4, were determined to encode the following previously identified proteins: prostate specific antigen (PSA), human glandular kallikrein, human tumor expression enhanced gene, and mitochondria cytochrome C oxidase subunit II. H1-9 was found to be identical to a previously identified human autonomously replicating sequence. No significant homologies to the cDNA sequence for F1-12 were found.

Subsequent studies led to the isolation of a full-length cDNA sequence for F1-12. This sequence is provided in SEQ ID NO: 107, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 108.

To clone less abundant prostate tumor specific genes, cDNA library subtraction was performed by subtracting the prostate tumor cDNA library described above with the normal pancreas cDNA library and with the three most abundant genes in the previously subtracted prostate tumor specific cDNA library: human glandular kallikrein, prostate specific antigen (PSA), and mitochondria cytochrome C oxidase subunit II. Specifically, 1 μ g each of human glandular kallikrein, PSA and mitochondria cytochrome C oxidase subunit II cDNAs in pCDNA3.1 were added to the

driver DNA and subtraction was performed as described above to provide a second subtracted cDNA library hereinafter referred to as the "subtracted prostate tumor specific cDNA library with spike".

Twenty-two cDNA clones were isolated from the subtracted prostate tumor specific cDNA library with spike. The determined 3' and 5' cDNA sequences for the clones referred to as J1-17, L1-12, N1-1862, J1-13, J1-19, J1-25, J1-24, K1-58, K1-63, L1-4 and L1-14 are provided in SEQ ID NOS: 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27 and 28-29, respectively. The determined 3' cDNA sequences for the clones referred to as J1-12, J1-16, J1-21, K1-48, K1-55, L1-2, L1-6, N1-1858, N1-1860, N1-1861, N1-1864 are provided in SEQ ID NOS: 30-40, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to three of the five most abundant DNA species, (J1-17, L1-12 and N1-1862; SEQ ID NOS: 8-9, 10-11 and 12-13, respectively). Of the remaining two most abundant species, one (J1-12; SEQ ID NO:30) was found to be identical to the previously identified human pulmonary surfactant-associated protein, and the other (K1-48; SEQ ID NO:33) was determined to have some homology to *R. norvegicus* mRNA for 2-arylpropionyl-CoA epimerase. Of the 17 less abundant cDNA clones isolated from the subtracted prostate tumor specific cDNA library with spike, four (J1-16, K1-55, L1-6 and N1-1864; SEQ ID NOS:31, 34, 36 and 40, respectively) were found to be identical to previously identified sequences, two (J1-21 and N1-1860; SEQ ID NOS: 32 and 38, respectively) were found to show some homology to non-human sequences, and two (L1-2 and N1-1861; SEQ ID NOS: 35 and 39, respectively) were found to show some homology to known human sequences. No significant homologies were found to the polypeptides J1-13, J1-19, J1-24, J1-25, K1-58, K1-63, L1-4, L1-14 (SEQ ID NOS: 14-15, 16-17, 20-21, 18-19, 22-23, 24-25, 26-27, 28-29, respectively).

Subsequent studies led to the isolation of full length cDNA sequences for J1-17, L1-12 and N1-1862 (SEQ ID NOS: 109-111, respectively). The corresponding predicted amino acid sequences are provided in SEQ ID NOS: 112-114. L1-12 is also referred to as P501S.

In a further experiment, four additional clones were identified by subtracting a prostate tumor cDNA library with normal prostate cDNA prepared from a pool of three normal prostate poly A+ RNA (referred to as "prostate subtraction 2"). The determined cDNA sequences for these clones, hereinafter referred to as U1-3064, U1-3065, V1-3692 and 1A-3905, are provided in SEQ ID NO: 69-72, respectively. Comparison of the determined sequences with those in the gene bank revealed no significant homologies to U1-3065.

A second subtraction with spike (referred to as "prostate subtraction spike 2") was performed by subtracting a prostate tumor specific cDNA library with spike with normal pancreas cDNA library and further spiked with PSA, J1-17, pulmonary surfactant-associated protein, mitochondrial DNA, cytochrome c oxidase subunit II, N1-1862, autonomously replicating sequence, L1-12 and tumor expression enhanced gene. Four additional clones, hereinafter referred to as V1-3686, R1-2330, 1B-3976 and V1-3679, were isolated. The determined cDNA sequences for these clones are provided in SEQ ID NO:73-76, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to V1-3686 and R1-2330.

Further analysis of the three prostate subtractions described above (prostate subtraction 2, subtracted prostate tumor specific cDNA library with spike, and prostate subtraction spike 2) resulted in the identification of sixteen additional clones, referred to as 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1G-4734, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4810, 1I-4811, 1J-4876, 1K-4884 and 1K-4896. The determined cDNA sequences for these clones are provided in SEQ ID NOS: 77-92, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to 1G-4741, 1G-4734, 1I-4807, 1J-4876 and 1K-4896 (SEQ ID NOS: 79, 81, 87, 90 and 92, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4807, 1J-4876, 1K-4884 and 1K-4896, provided in SEQ ID NOS: 179-188 and 191-193,

respectively, and to the determination of additional partial cDNA sequences for 1I-4810 and 1I-4811, provided in SEQ ID NOS: 189 and 190, respectively.

Additional studies with prostate subtraction spike 2 resulted in the isolation of three more clones. Their sequences were determined as described above and compared to the most recent GenBank. All three clones were found to have homology to known genes, which are Cysteine-rich protein, KIAA0242, and KIAA0280 (SEQ ID NO: 317, 319, and 320, respectively). Further analysis of these clones by Synteni microarray (Synteni, Palo Alto, CA) demonstrated that all three clones were over-expressed in most prostate tumors and prostate BPH, as well as in the majority of normal prostate tissues tested, but low expression in all other normal tissues.

An additional subtraction was performed by subtracting a normal prostate cDNA library with normal pancreas cDNA (referred to as "prostate subtraction 3"). This led to the identification of six additional clones referred to as 1G-4761, 1G-4762, 1H-4766, 1H-4770, 1H-4771 and 1H-4772 (SEQ ID NOS: 93-98). Comparison of these sequences with those in the gene bank revealed no significant homologies to 1G-4761 and 1H-4771 (SEQ ID NOS: 93 and 97, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4761, 1G-4762, 1H-4766 and 1H-4772 provided in SEQ ID NOS: 194-196 and 199, respectively, and to the determination of additional partial cDNA sequences for 1H-4770 and 1H-4771, provided in SEQ ID NOS: 197 and 198, respectively.

Subtraction of a prostate tumor cDNA library, prepared from a pool of polyA+ RNA from three prostate cancer patients, with a normal pancreas cDNA library (prostate subtraction 4) led to the identification of eight clones, referred to as 1D-4297, 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280 (SEQ ID NOS: 99-107). These sequences were compared to those in the gene bank as described above. No significant homologies were found to 1D-4283 and 1D-4304 (SEQ ID NOS: 103 and 104, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280, provided in SEQ ID NOS: 200-206, respectively.

cDNA clones isolated in prostate subtraction 1 and prostate subtraction 2, described above, were colony PCR amplified and their mRNA expression levels in prostate tumor, normal prostate and in various other normal tissues were determined using microarray technology (Synteni, Palo Alto, CA). Briefly, the PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization intensity. Two clones (referred to as P509S and P510S) were found to be over-expressed in prostate tumor and normal prostate and expressed at low levels in all other normal tissues tested (liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon). The determined cDNA sequences for P509S and P510S are provided in SEQ ID NO: 223 and 224, respectively. Comparison of these sequences with those in the gene bank as described above, revealed some homology to previously identified ESTs.

Additional, studies led to the isolation of the full-length cDNA sequence for P509S. This sequence is provided in SEQ ID NO: 332, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 339.

EXAMPLE 2

DETERMINATION OF TISSUE SPECIFICITY OF PROSTATE TUMOR POLYPEPTIDES

Using gene specific primers, mRNA expression levels for the representative prostate tumor polypeptides F1-16, H1-1, J1-17 (also referred to as P502S), L1-12 (also referred to as P501S), F1-12 (also referred to as P504S) and N1-1862 (also referred to as P503S) were examined in a variety of normal and tumor tissues using RT-PCR.

Briefly, total RNA was extracted from a variety of normal and tumor tissues using Trizol reagent as described above. First strand synthesis was carried out using 1-2 μ g of total RNA with SuperScript II reverse transcriptase (BRL Life Technologies) at 42 °C for one hour. The cDNA was then amplified by PCR with gene-specific primers. To ensure the semi-quantitative nature of the RT-PCR, β -actin was used as an internal control for each of the tissues examined. First, serial dilutions of the first strand cDNAs were prepared and RT-PCR assays were performed using β -actin specific primers. A dilution was then chosen that enabled the linear range amplification of the β -actin template and which was sensitive enough to reflect the differences in the initial copy numbers. Using these conditions, the β -actin levels were determined for each reverse transcription reaction from each tissue. DNA contamination was minimized by DNase treatment and by assuring a negative PCR result when using first strand cDNA that was prepared without adding reverse transcriptase.

mRNA Expression levels were examined in four different types of tumor tissue (prostate tumor from 2 patients, breast tumor from 3 patients, colon tumor, lung tumor), and sixteen different normal tissues, including prostate, colon, kidney, liver, lung, ovary, pancreas, skeletal muscle, skin, stomach, testes, bone marrow and brain. F1-16 was found to be expressed at high levels in prostate tumor tissue, colon tumor and normal prostate, and at lower levels in normal liver, skin and testes, with expression being undetectable in the other tissues examined. H1-1 was found to be expressed at high levels in prostate tumor, lung tumor, breast tumor, normal prostate, normal colon and normal brain, at much lower levels in normal lung, pancreas, skeletal muscle, skin, small intestine, bone marrow, and was not detected in the other tissues tested. J1-17 (P502S) and L1-12 (P501S) appear to be specifically over-expressed in prostate, with both genes being expressed at high levels in prostate tumor and normal prostate but at low to undetectable levels in all the other tissues examined. N1-1862 (P503S) was found to be over-expressed in 60% of prostate tumors and detectable in normal colon and kidney. The RT-PCR results thus indicate that F1-16, H1-1, J1-17 (P502S), N1-1862 (P503S) and L1-12 (P501S) are either prostate specific or are expressed at significantly elevated levels in prostate.

Further RT-PCR studies showed that F1-12 (P504S) is over-expressed in 60% of prostate tumors, detectable in normal kidney but not detectable in all other tissues tested. Similarly, R1-2330 was shown to be over-expressed in 40% of prostate tumors, detectable in normal kidney and liver, but not detectable in all other tissues tested. U1-3064 was found to be over-expressed in 60% of prostate tumors, and also expressed in breast and colon tumors, but was not detectable in normal tissues.

RT-PCR characterization of R1-2330, U1-3064 and 1D-4279 showed that these three antigens are over-expressed in prostate and/or prostate tumors.

Northern analysis with four prostate tumors, two normal prostate samples, two BPH prostates, and normal colon, kidney, liver, lung, pancreas, skeletal muscle, brain, stomach, testes, small intestine and bone marrow, showed that L1-12 (P501S) is over-expressed in prostate tumors and normal prostate, while being undetectable in other normal tissues tested. J1-17 (P502S) was detected in two prostate tumors and not in the other tissues tested. N1-1862 (P503S) was found to be over-expressed in three prostate tumors and to be expressed in normal prostate, colon and kidney, but not in other tissues tested. F1-12 (P504S) was found to be highly expressed in two prostate tumors and to be undetectable in all other tissues tested.

The microarray technology described above was used to determine the expression levels of representative antigens described herein in prostate tumor, breast tumor and the following normal tissues: prostate, liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon. L1-12 (P501S) was found to be over-expressed in normal prostate and prostate tumor, with some expression being detected in normal skeletal muscle. Both J1-12 and F1-12 (P504S) were found to be over-expressed in prostate tumor, with expression being lower or undetectable in all other tissues tested. N1-1862 (P503S) was found to be expressed at high levels in prostate tumor and normal prostate, and at low levels in normal large intestine and normal colon, with expression being undetectable in all other tissues tested. R1-2330 was found to be over-expressed in prostate tumor and normal prostate, and to be expressed at lower levels in all other tissues tested. 1D-4279 was found to be over-

expressed in prostate tumor and normal prostate, expressed at lower levels in normal spinal cord, and to be undetectable in all other tissues tested.

Further microarray analysis to specifically address the extent to which P501S (SEQ ID NO: 110) was expressed in breast tumor revealed moderate over-expression not only in breast tumor, but also in metastatic breast tumor (2/31), with negligible to low expression in normal tissues. This data suggests that P501S may be over-expressed in various breast tumors as well as in prostate tumors.

The expression levels of 32 ESTs (expressed sequence tags) described by Vasmatzis *et al.* (*Proc. Natl. Acad. Sci. USA* 95:300-304, 1998) in a variety of tumor and normal tissues were examined by microarray technology as described above. Two of these clones (referred to as P1000C and P1001C) were found to be over-expressed in prostate tumor and normal prostate, and expressed at low to undetectable levels in all other tissues tested (normal aorta, thymus, resting and activated PBMC, epithelial cells, spinal cord, adrenal gland, fetal tissues, skin, salivary gland, large intestine, bone marrow, liver, lung, dendritic cells, stomach, lymph nodes, brain, heart, small intestine, skeletal muscle, colon and kidney. The determined cDNA sequences for P1000C and P1001C are provided in SEQ ID NO: 384 and 472, respectively. The sequence of P1001C was found to show some homology to the previously isolated Human mRNA for JM27 protein. No significant homologies were found to the sequence of P1000C.

The expression of the polypeptide encoded by the full length cDNA sequence for F1-12 (also referred to as P504S; SEQ ID NO: 108) was investigated by immunohistochemical analysis. Rabbit-anti-P504S polyclonal antibodies were generated against the full length P504S protein by standard techniques. Subsequent isolation and characterization of the polyclonal antibodies were also performed by techniques well known in the art. Immunohistochemical analysis showed that the P504S polypeptide was expressed in 100% of prostate carcinoma samples tested (n=5).

The rabbit-anti-P504S polyclonal antibody did not appear to label benign prostate cells with the same cytoplasmic granular staining, but rather with light nuclear staining. Analysis of normal tissues revealed that the encoded polypeptide was found to be expressed in some, but not all normal human tissues. Positive

cytoplasmic staining with rabbit-anti-P504S polyclonal antibody was found in normal human kidney, liver, brain, colon and lung-associated macrophages, whereas heart and bone marrow were negative.

This data indicates that the P504S polypeptide is present in prostate cancer tissues, and that there are qualitative and quantitative differences in the staining between benign prostatic hyperplasia tissues and prostate cancer tissues, suggesting that this polypeptide may be detected selectively in prostate tumors and therefore be useful in the diagnosis of prostate cancer.

EXAMPLE 3

ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA subtraction library, containing cDNA from normal prostate subtracted with ten other normal tissue cDNAs (brain, heart, kidney, liver, lung, ovary, placenta, skeletal muscle, spleen and thymus) and then submitted to a first round of PCR amplification, was purchased from Clontech. This library was subjected to a second round of PCR amplification, following the manufacturer's protocol. The resulting cDNA fragments were subcloned into the vector pT7 Blue T-vector (Novagen, Madison, WI) and transformed into XL-1 Blue MRF' *E. coli* (Stratagene). DNA was isolated from independent clones and sequenced using a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A.

Fifty-nine positive clones were sequenced. Comparison of the DNA sequences of these clones with those in the gene bank, as described above, revealed no significant homologies to 25 of these clones, hereinafter referred to as P5, P8, P9, P18, P20, P30, P34, P36, P38, P39, P42, P49, P50, P53, P55, P60, P64, P65, P73, P75, P76, P79 and P84. The determined cDNA sequences for these clones are provided in SEQ ID NO: 41-45, 47-52 and 54-65, respectively. P29, P47, P68, P80 and P82 (SEQ ID NO: 46, 53 and 66-68, respectively) were found to show some degree of homology to

previously identified DNA sequences. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in prostate.

Further studies using the PCR-based methodology described above resulted in the isolation of more than 180 additional clones, of which 23 clones were found to show no significant homologies to known sequences. The determined cDNA sequences for these clones are provided in SEQ ID NO: 115-123, 127, 131, 137, 145, 147-151, 153, 156-158 and 160. Twenty-three clones (SEQ ID NO: 124-126, 128-130, 132-136, 138-144, 146, 152, 154, 155 and 159) were found to show some homology to previously identified ESTs. An additional ten clones (SEQ ID NO: 161-170) were found to have some degree of homology to known genes. Larger cDNA clones containing the P20 sequence represent splice variants of a gene referred to as P703P. The determined DNA sequence for the variants referred to as DE1, DE13 and DE14 are provided in SEQ ID NOS: 171, 175 and 177, respectively, with the corresponding predicted amino acid sequences being provided in SEQ ID NO: 172, 176 and 178, respectively. The determined cDNA sequence for an extended spliced form of P703 is provided in SEQ ID NO: 225. The DNA sequences for the splice variants referred to as DE2 and DE6 are provided in SEQ ID NOS: 173 and 174, respectively.

mRNA Expression levels for representative clones in tumor tissues (prostate (n=5), breast (n=2), colon and lung) normal tissues (prostate (n=5), colon, kidney, liver, lung (n=2), ovary (n=2), skeletal muscle, skin, stomach, small intestine and brain), and activated and non-activated PBMC was determined by RT-PCR as described above. Expression was examined in one sample of each tissue type unless otherwise indicated.

P9 was found to be highly expressed in normal prostate and prostate tumor compared to all normal tissues tested except for normal colon which showed comparable expression. P20, a portion of the P703P gene, was found to be highly expressed in normal prostate and prostate tumor, compared to all twelve normal tissues tested. A modest increase in expression of P20 in breast tumor (n=2), colon tumor and lung tumor was seen compared to all normal tissues except lung (1 of 2). Increased expression of P18 was found in normal prostate, prostate tumor and breast tumor

compared to other normal tissues except lung and stomach. A modest increase in expression of P5 was observed in normal prostate compared to most other normal tissues. However, some elevated expression was seen in normal lung and PBMC. Elevated expression of P5 was also observed in prostate tumors (2 of 5), breast tumor and one lung tumor sample. For P30, similar expression levels were seen in normal prostate and prostate tumor, compared to six of twelve other normal tissues tested. Increased expression was seen in breast tumors, one lung tumor sample and one colon tumor sample, and also in normal PBMC. P29 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to the majority of normal tissues. However, substantial expression of P29 was observed in normal colon and normal lung (2 of 2). P80 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to all other normal tissues tested, with increased expression also being seen in colon tumor.

Further studies resulted in the isolation of twelve additional clones, hereinafter referred to as 10-d8, 10-h10, 11-c8, 7-g6, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3, 8-h11, 9-f12 and 9-f3. The determined DNA sequences for 10-d8, 10-h10, 11-c8, 8-d4, 8-d9, 8-h11, 9-f12 and 9-f3 are provided in SEQ ID NO: 207, 208, 209, 216, 217, 220, 221 and 222, respectively. The determined forward and reverse DNA sequences for 7-g6, 8-b5, 8-b6 and 8-g3 are provided in SEQ ID NO: 210 and 211; 212 and 213; 214 and 215; and 218 and 219, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to the sequence of 9-f3. The clones 10-d8, 11-c8 and 8-h11 were found to show some homology to previously isolated ESTs, while 10-h10, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3 and 9-f12 were found to show some homology to previously identified genes. Further characterization of 7-G6 and 8-G3 showed identity to the known genes PAP and PSA, respectively.

mRNA expression levels for these clones were determined using the micro-array technology described above. The clones 7-G6, 8-G3, 8-B5, 8-B6, 8-D4, 8-D9, 9-F3, 9-F12, 9-H3, 10-A2, 10-A4, 11-C9 and 11-F2 were found to be over-expressed in prostate tumor and normal prostate, with expression in other tissues tested being low or undetectable. Increased expression of 8-F11 was seen in prostate tumor

and normal prostate, bladder, skeletal muscle and colon. Increased expression of 10-H10 was seen in prostate tumor and normal prostate, bladder, lung, colon, brain and large intestine. Increased expression of 9-B1 was seen in prostate tumor, breast tumor, and normal prostate, salivary gland, large intestine and skin, with increased expression of 11-C8 being seen in prostate tumor, and normal prostate and large intestine.

An additional cDNA fragment derived from the PCR-based normal prostate subtraction, described above, was found to be prostate specific by both microarray technology and RT-PCR. The determined cDNA sequence of this clone (referred to as 9-A11) is provided in SEQ ID NO: 226. Comparison of this sequence with those in the public databases revealed 99% identity to the known gene HOXB13.

Further studies led to the isolation of the clones 8-C6 and 8-H7. The determined cDNA sequences for these clones are provided in SEQ ID NO: 227 and 228, respectively. These sequences were found to show some homology to previously isolated ESTs.

PCR and hybridization-based methodologies were employed to obtain longer cDNA sequences for clone P20 (also referred to as P703P), yielding three additional cDNA fragments that progressively extend the 5' end of the gene. These fragments, referred to as P703PDE5, P703P6.26, and P703PX-23 (SEQ ID NO: 326, 328 and 330, with the predicted corresponding amino acid sequences being provided in SEQ ID NO: 327, 329 and 331, respectively) contain additional 5' sequence. P703PDE5 was recovered by screening of a cDNA library (#141-26) with a portion of P703P as a probe. P703P6.26 was recovered from a mixture of three prostate tumor cDNAs and P703PX_23 was recovered from cDNA library (#438-48). Together, the additional sequences include all of the putative mature serine protease along with part of the putative signal sequence. Further studies using a PCR-based subtraction library of a prostate tumor pool subtracted against a pool of normal tissues (referred to as JP: PCR subtraction) resulted in the isolation of thirteen additional clones, seven of which did not share any significant homology to known GenBank sequences. The determined cDNA sequences for these seven clones (P711P, P712P, novel 23, P774P, P775P, P710P and P768P) are provided in SEQ ID NO: 307-311, 313 and 315, respectively.

The remaining six clones (SEQ ID NO: 316 and 321-325) were shown to share some homology to known genes. By microarray analysis, all thirteen clones showed three or more fold over-expression in prostate tissues, including prostate tumors, BPH and normal prostate as compared to normal non-prostate tissues. Clones P711P, P712P, novel 23 and P768P showed over-expression in most prostate tumors and BPH tissues tested (n=29), and in the majority of normal prostate tissues (n=4), but background to low expression levels in all normal tissues. Clones P774P, P775P and P710P showed comparatively lower expression and expression in fewer prostate tumors and BPH samples, with negative to low expression in normal prostate.

The full-length cDNA for P711P was obtained by employing the partial sequence of SEQ ID NO: 307 to screen a prostate cDNA library. Specifically, a directionally cloned prostate cDNA library was prepared using standard techniques. One million colonies of this library were plated onto LB/Amp plates. Nylon membrane filters were used to lift these colonies, and the cDNAs which were picked up by these filters were denatured and cross-linked to the filters by UV light. The P711P cDNA fragment of SEQ ID NO: 307 was radio-labeled and used to hybridize with these filters. Positive clones were selected, and cDNAs were prepared and sequenced using an automatic Perkin Elmer/Applied Biosystems sequencer. The determined full-length sequence of P711P is provided in SEQ ID NO: 382, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 383.

Using PCR and hybridization-based methodologies, additional cDNA sequence information was derived for two clones described above, 11-C9 and 9-F3, herein after referred to as P707P and P714P, respectively (SEQ ID NO: 333 and 334). After comparison with the most recent GenBank, P707P was found to be a splice variant of the known gene HoxB13. In contrast, no significant homologies to P714P were found.

Clones 8-B3, P89, P98, P130 and P201 (as disclosed in U.S. Patent Application No. 09/020,956, filed February 9, 1998) were found to be contained within one contiguous sequence, referred to as P705P (SEQ ID NO: 335, with the predicted

amino acid sequence provided in SEQ ID NO: 336), which was determined to be a splice variant of the known gene NKX 3.1.

EXAMPLE 4

SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems 430A peptide synthesizer using Fmoc chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

EXAMPLE 5

FURTHER ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA library generated from prostate primary tumor mRNA as described above was subtracted with cDNA from normal prostate. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were

separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are overexpressed in prostate tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

In addition to genes known to be overexpressed in prostate tumor, seventy-seven further clones were identified. Sequences of these partial cDNAs are provided in SEQ ID NO: 29 to 305. Most of these clones had no significant homology to database sequences. Exceptions were JPTPN23 (SEQ ID NO: 231; similarity to pig

valosin-containing protein), JPTPN30 (SEQ ID NO: 234; similarity to rat mRNA for proteasome subunit), JPTPN45 (SEQ ID NO: 243; similarity to rat *norvegicus* cytosolic NADP-dependent isocitrate dehydrogenase), JPTPN46 (SEQ ID NO: 244; similarity to human subclone H8 4 d4 DNA sequence), JP1D6 (SEQ ID NO: 265; similarity to *G. gallus* dynein light chain-A), JP8D6 (SEQ ID NO: 288; similarity to human BAC clone RG016J04), JP8F5 (SEQ ID NO: 289; similarity to human subclone H8 3 b5 DNA sequence), and JP8E9 (SEQ ID NO: 299; similarity to human Alu sequence).

Additional studies using the PCR-based subtraction library consisting of a prostate tumor pool subtracted against a normal prostate pool (referred to as PT-PN PCR subtraction) yielded three additional clones. Comparison of the cDNA sequences of these clones with the most recent release of GenBank revealed no significant homologies to the two clones referred to as P715P and P767P (SEQ ID NO: 312 and 314). The remaining clone was found to show some homology to the known gene KIAA0056 (SEQ ID NO: 318). Using microarray analysis to measure mRNA expression levels in various tissues, all three clones were found to be over-expressed in prostate tumors and BPH tissues. Specifically, clone P715P was over-expressed in most prostate tumors and BPH tissues by a factor of three or greater, with elevated expression seen in the majority of normal prostate samples and in fetal tissue, but negative to low expression in all other normal tissues. Clone P767P was over-expressed in several prostate tumors and BPH tissues, with moderate expression levels in half of the normal prostate samples, and background to low expression in all other normal tissues tested.

Further analysis, by microarray as described above, of the PT-PN PCR subtraction library and of a DNA subtraction library containing cDNA from prostate tumor subtracted with a pool of normal tissue cDNAs, led to the isolation of 27 additional clones (SEQ ID NO: 340-365 and 381) which were determined to be over-expressed in prostate tumor. The clones of SEQ ID NO: 341, 342, 345, 347, 348, 349, 351, 355-359, 361, 362 and 364 were also found to be expressed in normal prostate. Expression of all 26 clones in a variety of normal tissues was found to be low or undetectable, with the exception of P544S (SEQ ID NO: 356) which was found to be

expressed in small intestine. Of the 26 clones, 10 (SEQ ID NO: 340-349) were found to show some homology to previously identified sequences. No significant homologies were found to the clones of SEQ ID NO: 350-365.

EXAMPLE 6

PEPTIDE PRIMING OF MICE AND PROPAGATION OF CTL LINES

6.1. This Example illustrates the preparation of a CTL cell line specific for cells expressing the P502S gene.

Mice expressing the transgene for human HLA A2.1 (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with P2S#12 peptide (VLGWVAEL; SEQ ID NO: 306), which is derived from the P502S gene (also referred to herein as J1-17, SEQ ID NO: 8), as described by Theobald et al., *Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995 with the following modifications. Mice were immunized with 100µg of P2S#12 and 120µg of an I-A^b binding peptide derived from hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and using a nylon mesh single cell suspensions prepared. Cells were then resuspended at 6×10^6 cells/ml in complete media (RPMI-1640; Gibco BRL, Gaithersburg, MD) containing 10% FCS, 2mM Glutamine (Gibco BRL), sodium pyruvate (Gibco BRL), non-essential amino acids (Gibco BRL), 2×10^{-5} M 2-mercaptoethanol, 50U/ml penicillin and streptomycin, and cultured in the presence of irradiated (3000 rads) P2S#12-pulsed (5mg/ml P2S#12 and 10mg/ml β2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7µg/ml dextran sulfate and 25µg/ml LPS for 3 days). Six days later, cells (5×10^5 /ml) were restimulated with 2.5×10^6 /ml peptide pulsed irradiated (20,000 rads) EL4A2Kb cells (Sherman et al, *Science* 258:815-818, 1992) and 3×10^6 /ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20U/ml IL-2. Cells continued to be restimulated on a weekly basis as described, in preparation for cloning the line.

P2S#12 line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells

as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, clones that were growing were isolated and maintained in culture. Several of these clones demonstrated significantly higher reactivity (lysis) against human fibroblasts (HLA A2.1 expressing) transduced with P502S than against control fibroblasts. An example is presented in Figure 1.

This data indicates that P2S #12 represents a naturally processed epitope of the P502S protein that is expressed in the context of the human HLA A2.1 molecule.

6.2. This Example illustrates the preparation of murine CTL lines and CTL clones specific for cells expressing the P501S gene.

This series of experiments were performed similarly to that described above. Mice were immunized with the P1S#10 peptide (SEQ ID NO: 337), which is derived from the P501S gene (also referred to herein as L1-12, SEQ ID NO: 110). The P1S#10 peptide was derived by analysis of the predicted polypeptide sequence for P501S for potential HLA-A2 binding sequences as defined by published HLA-A2 binding motifs (Parker, KC, *et al*, *J. Immunol.*, 152:163, 1994). P1S#10 peptide was synthesized as described in Example 4, and empirically tested for HLA-A2 binding using a T cell based competition assay. Predicted A2 binding peptides were tested for their ability to compete HLA-A2 specific peptide presentation to an HLA-A2 restricted CTL clone (D150M58), which is specific for the HLA-A2 binding influenza matrix peptide fluM58. D150M58 CTL secretes TNF in response to self-presentation of peptide fluM58. In the competition assay, test peptides at 100-200 μ g/ml were added to cultures of D150M58 CTL in order to bind HLA-A2 on the CTL. After thirty minutes, CTL cultured with test peptides, or control peptides, were tested for their antigen dose response to the fluM58 peptide in a standard TNF bioassay. As shown in Figure 3, peptide P1S#10 competes HLA-A2 restricted presentation of fluM58, demonstrating that peptide P1S#10 binds HLA-A2.

Mice expressing the transgene for human HLA A2.1 were immunized as described by Theobald et al. (*Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995) with the following modifications. Mice were immunized with 62.5 μ g of P1S #10 and 120 μ g

of an I-A^b binding peptide derived from Hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and single cell suspensions prepared using a nylon mesh. Cells were then resuspended at 6×10^6 cells/ml in complete media (as described above) and cultured in the presence of irradiated (3000 rads) P1S#10-pulsed ($2\mu\text{g/ml}$ P1S#10 and 10mg/ml $\beta 2$ -microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of $7\mu\text{g/ml}$ dextran sulfate and $25\mu\text{g/ml}$ LPS for 3 days). Six days later cells ($5 \times 10^5/\text{ml}$) were restimulated with $2.5 \times 10^6/\text{ml}$ peptide-pulsed irradiated (20,000 rads) EL4A2Kb cells, as described above, and $3 \times 10^6/\text{ml}$ A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20 U/ml IL-2. Cells were restimulated on a weekly basis in preparation for cloning. After three rounds of *in vitro* stimulations, one line was generated that recognized P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat targets as shown in Figure 4.

A P1S#10-specific CTL line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, viable clones were isolated and maintained in culture. As shown in Figure 5, five of these clones demonstrated specific cytolytic reactivity against P501S-transduced Jurkat A2Kb targets. This data indicates that P1S#10 represents a naturally processed epitope of the P501S protein that is expressed in the context of the human HLA-A2.1 molecule.

EXAMPLE 7

ABILITY OF HUMAN T CELLS TO RECOGNIZE PROSTATE TUMOR POLYPEPTIDES

This Example illustrates the ability of T cells specific for a prostate tumor polypeptide to recognize human tumor.

Human CD8⁺ T cells were primed *in vitro* to the P2S-12 peptide (SEQ ID NO: 306) derived from P502S (also referred to as J1-17) using dendritic cells according to the protocol of Van Tsai et al. (*Critical Reviews in Immunology* 18:65-75, 1998). The resulting CD8⁺ T cell microcultures were tested for their ability to recognize the P2S-12 peptide presented by autologous fibroblasts or fibroblasts which were transduced to express the P502S gene in a γ -interferon ELISPOT assay (see Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). Briefly, titrating numbers of T cells were assayed in duplicate on 10⁴ fibroblasts in the presence of 3 μ g/ml human β_2 -microglobulin and 1 μ g/ml P2S-12 peptide or control E75 peptide. In addition, T cells were simultaneously assayed on autologous fibroblasts transduced with the P502S gene or as a control, fibroblasts transduced with HER-2/*neu*. Prior to the assay, the fibroblasts were treated with 10 ng/ml γ -interferon for 48 hours to upregulate class I MHC expression. One of the microcultures (#5) demonstrated strong recognition of both peptide pulsed fibroblasts as well as transduced fibroblasts in a γ -interferon ELISPOT assay. Figure 2A demonstrates that there was a strong increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts pulsed with the P2S-12 peptide (solid bars) but not with the control E75 peptide (open bars). This shows the ability of these T cells to specifically recognize the P2S-12 peptide. As shown in Figure 2B, this microculture also demonstrated an increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts transduced to express the P502S gene but not the HER-2/*neu* gene. These results provide additional confirmatory evidence that the P2S-12 peptide is a naturally processed epitope of the P502S protein. Furthermore, this also demonstrates that there exists in the human T cell repertoire, high affinity T cells which are capable of recognizing this epitope. These T cells should also be capable of recognizing human tumors which express the P502S gene.

EXAMPLE 8

PRIMING OF CTL *IN VIVO* USING NAKED DNA IMMUNIZATION WITH A PROSTATE ANTIGEN

The prostate tumor antigen L1-12, as described above, is also referred to as P501S. HLA A2Kb Tg mice (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with 100 µg VR10132-P501S either intramuscularly or intradermally. The mice were immunized three times, with a two week interval between immunizations. Two weeks after the last immunization, immune spleen cells were cultured with Jurkat A2Kb-P501S transduced stimulator cells. CTL lines were stimulated weekly. After two weeks of *in vitro* stimulation, CTL activity was assessed against P501S transduced targets. Two out of 8 mice developed strong anti-P501S CTL responses. These results demonstrate that P501S contains at least one naturally processed A2-restricted CTL epitope.

EXAMPLE 9

GENERATION OF HUMAN CTL *IN VITRO* USING WHOLE GENE PRIMING AND STIMULATION TECHNIQUES WITH PROSTATE TUMOR ANTIGEN

Using *in vitro* whole-gene priming with P501S-retrovirally transduced autologous fibroblasts (see, for example, Yee et al, *The Journal of Immunology*, 157(9):4079-86, 1996), human CTL lines were derived that specifically recognize autologous fibroblasts transduced with P501S (also known as L1-12), as determined by interferon-γ ELISPOT analysis as described above. Using a panel of HLA-mismatched fibroblast lines transduced with P501S, these CTL lines were shown to be restricted HLA-A2 class I allele. Specifically, dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by growing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, DC were infected overnight with recombinant P501S vaccinia virus at a multiplicity of infection (M.O.I) of five, and matured

overnight by the addition of 3 $\mu\text{g/ml}$ CD40 ligand. Virus was inactivated by UV irradiation. CD8⁺ T cells were isolated using a magnetic bead system, and priming cultures were initiated using standard culture techniques. Cultures were restimulated every 7-10 days using autologous primary fibroblasts retrovirally transduced with P501S. Following four stimulation cycles, CD8⁺ T cell lines were identified that specifically produced interferon- γ when stimulated with P501S-transduced autologous fibroblasts. The P501S-specific activity could be sustained by the continued stimulation of the cultures with P501S-transduced fibroblasts in the presence of IL-15. A panel of HLA-mismatched fibroblast lines transduced with P501S were generated to define the restriction allele of the response. By measuring interferon- γ in an ELISPOT assay, the P501S specific response was shown to be restricted by HLA-A2. These results demonstrate that a CD8⁺ CTL response to P501S can be elicited.

EXAMPLE 10

IDENTIFICATION OF A NATURALLY PROCESSED CTL EPITOPE CONTAINED WITHIN A PROSTATE TUMOR ANTIGEN

The 9-mer peptide p5 (SEQ ID NO: 338) was derived from the P703P antigen (also referred to as P20). The p5 peptide is immunogenic in human HLA-A2 donors and is a naturally processed epitope. Antigen specific CD8⁺ T cells can be primed following repeated *in vitro* stimulations with monocytes pulsed with p5 peptide. These CTL specifically recognize p5-pulsed target cells in both ELISPOT (as described above) and chromium release assays. Additionally, immunization of HLA-A2 transgenic mice with p5 leads to the generation of CTL lines which recognize a variety of P703P transduced target cells expressing either HLA-A2Kb or HLA-A2. Specifically, HLA-A2 transgenic mice were immunized subcutaneously in the footpad with 100 μg of p5 peptide together with 140 μg of hepatitis B virus core peptide (a Th peptide) in Freund's incomplete adjuvant. Three weeks post immunization, spleen cells from immunized mice were stimulated *in vitro* with peptide-pulsed LPS blasts. CTL activity was assessed by chromium release assay five days after primary *in vitro*

stimulation. Retrovirally transduced cells expressing the control antigen P703P and HLA-A2Kb were used as targets. CTL lines that specifically recognized both p5-pulsed targets as well as P703P-expressing targets were identified.

Human *in vitro* priming experiments demonstrated that the p5 peptide is immunogenic in humans. Dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by culturing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, the DC were pulsed with p5 peptide and cultured with GM-CSF and IL-4 together with CD8+ T cell enriched PBMC. CTL lines were restimulated on a weekly basis with p5-pulsed monocytes. Five to six weeks after initiation of the CTL cultures, CTL recognition of p5-pulsed target cells was demonstrated.

EXAMPLE 11

EXPRESSION OF A BREAST TUMOR-DERIVED ANTIGEN IN PROSTATE

Isolation of the antigen B305D from breast tumor by differential display is described in US Patent Application No. 08/700,014, filed August 20, 1996. Several different splice forms of this antigen were isolated. The determined cDNA sequences for these splice forms are provided in SEQ ID NO: 366-375, with the predicted amino acid sequences corresponding to the sequences of SEQ ID NO: 292, 298 and 301-303 being provided in SEQ ID NO: 299-306, respectively.

The expression levels of B305D in a variety of tumor and normal tissues were examined by real time PCR and by Northern analysis. The results indicated that B305D is highly expressed in breast tumor, prostate tumor, normal prostate tumor and normal testes, with expression being low or undetectable in all other tissues examined (colon tumor, lung tumor, ovary tumor, and normal bone marrow, colon, kidney, liver, lung, ovary, skin, small intestine, stomach).

EXAMPLE 12

ELICITATION OF PROSTATE TUMOR ANTIGEN-SPECIFIC CTL RESPONSES IN HUMAN BLOOD

This Example illustrates the ability of a prostate tumor antigen to elicit a CTL response in blood of normal humans.

Autologous dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal donors by growth for five days in RPMI medium containing 10% human serum, 50 ng/ml GMCSF and 30 ng/ml IL-4. Following culture, DC were infected overnight with recombinant P501S-expressing vaccinia virus at an M.O.I. of 5 and matured for 8 hours by the addition of 2 micrograms/ml CD40 ligand. Virus was inactivated by UV irradiation, CD8⁺ cells were isolated by positive selection using magnetic beads, and priming cultures were initiated in 24-well plates. Following five stimulation cycles, CD8⁺ lines were identified that specifically produced interferon-gamma when stimulated with autologous P501S-transduced fibroblasts. The P501S-specific activity of cell line 3A-1 could be maintained following additional stimulation cycles on autologous B-LCL transduced with P501S. Line 3A-1 was shown to specifically recognize autologous B-LCL transduced to express P501S, but not EGFP-transduced autologous B-LCL, as measured by cytotoxicity assays (⁵¹Cr release) and interferon-gamma production (Interferon-gamma Elispot; *see above and Lalvani et al., J. Exp. Med. 186:859-865, 1997*). The results of these assays are presented in Figures 6A and 6B.

EXAMPLE 13

IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 372 clones were identified, and 319 were successfully sequenced. Table I presents a summary of these clones, which are shown in SEQ ID NOs:385-400. Of these sequences SEQ ID NOs:386, 389, 390 and 392 correspond to novel genes, and SEQ ID NOs: 393 and 396 correspond to previously identified sequences. The others (SEQ ID NOs:385, 387, 388, 391, 394, 395 and 397-400) correspond to known sequences, as shown in Table I.

Table I
Summary of Prostate Tumor Antigens

Known Genes	Previously identified Genes	Novel Genes
T-cell gamma chain	P504S	23379 (SEQ ID NO:389)
Kallikrein	P1000C	23399 (SEQ ID NO:392)
Vector	P501S	23320 (SEQ ID NO:386)
CGI-82 protein mRNA (23319; SEQ ID NO:385)	P503S	23381 (SEQ ID NO:390)
PSA	P510S	
Ald. 6 Dehyd.	P784P	
L-Iditol-2 dehydrogenase (23376; SEQ ID NO:388)	P502S	
Ets transcription factor PDEF (22672; SEQ ID NO:398)	P706P	
hTGR (22678; SEQ ID NO:399)	19142.2, bangur.seq (22621; SEQ ID NO:396)	
KIAA0295(22685; SEQ ID NO:400)	5566.1 Wang(23404; SEQ ID NO:393)	
Prostatic Acid Phosphatase(22655; SEQ ID NO:397)	P712P	
transglutaminase (22611; SEQ ID NO:395)	P778P	
HDLBP (23508; SEQ ID NO:394)		
CGI-69 Protein(23367; SEQ ID NO:387)		
KIAA0122(23383; SEQ ID NO:391)		
TEEG		

CGI-82 showed 4.06 fold over-expression in prostate tissues as

compared to other normal tissues tested. It was over-expressed in 43% of prostate tumors, 25% normal prostate, not detected in other normal tissues tested. L-iditol-2 dehydrogenase showed 4.94 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 90% of prostate tumors, 100% of normal prostate, and not detected in other normal tissues tested. Ets transcription factor PDEF showed 5.55 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% prostate tumors, 25% normal prostate and not detected in other normal tissues tested. hTGR1 showed 9.11 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 63% of prostate tumors and is not detected in normal tissues tested including normal prostate. KIAA0295 showed 5.59 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% of prostate tumors, low to undetectable in normal tissues tested including normal prostate tissues. Prostatic acid phosphatase showed 9.14 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 67% of prostate tumors, 50% of normal prostate, and not detected in other normal tissues tested. Transglutaminase showed 14.84 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 30% of prostate tumors, 50% of normal prostate, and is not detected in other normal tissues tested. High density lipoprotein binding protein (HDLBP) showed 28.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% of normal prostate, and is undetectable in all other normal tissues tested. CGI-69 showed 3.56 fold over-expression in prostate tissues as compared to other normal tissues tested. It is a low abundant gene, detected in more than 90% of prostate tumors, and in 75% normal prostate tissues. The expression of this gene in normal tissues was very low. KIAA0122 showed 4.24 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 57% of prostate tumors, it was undetectable in all normal tissues tested including normal prostate tissues. 19142.2 bangur showed 23.25 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors and 100% of

normal prostate. It was undetectable in other normal tissues tested. 5566.1 Wang showed 3.31 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% normal prostate and was also over-expressed in normal bone marrow, pancreas, and activated PBMC. Novel clone 23379 showed 4.86 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in 97% of prostate tumors and 75% normal prostate and is undetectable in all other normal tissues tested. Novel clone 23399 showed 4.09 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 27% of prostate tumors and was undetectable in all normal tissues tested including normal prostate tissues. Novel clone 23320 showed 3.15 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in all prostate tumors and 50% of normal prostate tissues. It was also expressed in normal colon and trachea. Other normal tissues do not express this gene at high level.

EXAMPLE 14

IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY ELECTRONIC SUBTRACTION

This Example describes the use of an electronic subtraction technique to identify prostate tumor antigens.

Potential prostate-specific genes present in the GenBank human EST database were identified by electronic subtraction (similar to that described by Vasmatizis et al., *Proc. Natl. Acad. Sci. USA* 95:300-304, 1998). The sequences of EST clones (43,482) derived from various prostate libraries were obtained from the GenBank public human EST database. Each prostate EST sequence was used as a query sequence in a BLASTN (National Center for Biotechnology Information) search against the human EST database. All matches considered identical (length of matching sequence >100 base pairs, density of identical matches over this region > 70%) were grouped

(aligned) together in a cluster. Clusters containing more than 200 ESTs were discarded since they probably represented repetitive elements or highly expressed genes such as those for ribosomal proteins. If two or more clusters shared common ESTs, those clusters were grouped together into a "supercluster," resulting in 4,345 prostate superclusters.

Records for the 479 human cDNA libraries represented in the GenBank release were downloaded to create a database of these cDNA library records. These 479 cDNA libraries were grouped into three groups, Plus (normal prostate and prostate tumor libraries, and breast cell lines, in which expression was desired), Minus (libraries from other normal adult tissues, in which expression was not desirable), and Other (fetal tissue, infant tissue, tissues found only in women, non-prostate tumors and cell lines other than prostate cell lines, in which expression was considered to be irrelevant). A summary of these library groups is presented in Table II.

Table II
Prostate cDNA Libraries and ESTs

Library	# of Libraries	# of ESTs
Plus	25	43,482
Normal	11	18,875
Tumor	11	21,769
Cell lines	3	2,838
Minus	166	
Other	287	

Each supercluster was analyzed in terms of the ESTs within the supercluster. The tissue source of each EST clone was noted and used to classify the superclusters into four groups: Type 1- EST clones found in the Plus group libraries only; no expression detected in Minus or Other group libraries; Type 2- EST clones found in the Plus and Other group libraries only; no expression detected in the Minus group; Type 3- EST clones found in the Plus, Minus and Other group libraries, but the

expression in the Plus group is higher than in either the Minus or Other groups; and Type 4- EST clones found in Plus, Minus and Other group libraries, but the expression in the Plus group is higher than the expression in the Minus group. This analysis identified 4,345 breast clusters (*see* Table III). From these clusters, 3,172 EST clones were ordered from Research Genetics, Inc., and were received as frozen glycerol stocks in 96-well plates.

Table III
Prostate Cluster Summary

Type	# of Superclusters	# of ESTs Ordered
1	688	677
2	2899	2484
3	85	11
4	673	0
Total	4345	3172

The inserts were PCR-amplified using amino-linked PCR primers for Synteni microarray analysis. When more than one PCR product was obtained for a particular clone, that PCR product was not used for expression analysis. In total, 2,528 clones from the electronic subtraction method were analyzed by microarray analysis to identify electronic subtraction breast clones that had high tumor vs. normal tissue mRNA. Such screens were performed using a Synteni (Palo Alto, CA) microarray, according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Within these analyses, the clones were arrayed on the chip, which was then probed with fluorescent probes generated from normal and tumor prostate cDNA, as well as various other normal tissues. The slides were scanned and the fluorescence intensity was measured.

Clones with an expression ratio greater than 3 (*i.e.*, the level in prostate tumor cDNA was at least three times the level in normal prostate cDNA) were

identified as prostate tumor-specific sequences (Table IV). The sequences of these clones are provided in SEQ ID NOs:401-453, with certain novel sequences shown in SEQ ID NOs:407, 413, 416-419, 422, 426, 427 and 450.

Table IV
Prostate-tumor Specific Clones

SEQ ID NO.	Sequence Designation	Comments
401	22545	previously identified P1000C
402	22547	previously identified P704P
403	22548	known
404	22550	known
405	22551	PSA
406	22552	prostate secretory protein 94
407	22553	novel
408	22558	previously identified P509S
409	22562	glandular kallikrein
410	22565	previously identified P1000C
411	22567	PAP
412	22568	B1006C (breast tumor antigen)
413	22570	novel
414	22571	PSA
415	22572	previously identified P706P
416	22573	novel
417	22574	novel
418	22575	novel
419	22580	novel
420	22581	PAP
421	22582	prostatic secretory protein 94
422	22583	novel
423	22584	prostatic secretory protein 94
424	22585	prostatic secretory protein 94
425	22586	known
426	22587	novel
427	22588	novel
428	22589	PAP
429	22590	known
430	22591	PSA
431	22592	known
432	22593	Previously identified P777P

433	22594	T cell receptor gamma chain
434	22595	Previously identified P705P
435	22596	Previously identified P707P
436	22847	PAP
437	22848	known
438	22849	prostatic secretory protein 57
439	22851	PAP
440	22852	PAP
441	22853	PAP
442	22854	previously identified P509S
443	22855	previously identified P705P
444	22856	previously identified P774P
445	22857	PSA
446	23601	previously identified P777P
447	23602	PSA
448	23605	PSA
449	23606	PSA
450	23612	novel
451	23614	PSA
452	23618	previously identified P1000C
453	23622	previously identified P705P

EXAMPLE 15

FURTHER IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of additional prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 142 clones were identified and sequenced. Certain of these clones are shown in SEQ ID NOs:454-467. Of these sequences SEQ ID NOs:459-461 correspond to novel genes. The others (SEQ ID NOs:454-458 and 461-467) correspond to known sequences.

EXAMPLE 16

FURTHER CHARACTERIZATION OF PROSTATE TUMOR ANTIGEN P710P

This Example describes the full length cloning of P710P.

The prostate cDNA library described above was screened with the P710P fragment described above. One million colonies were plated on LB/Ampicillin plates. Nylon membrane filters were used to lift these colonies, and the cDNAs picked up by these filters were then denatured and cross-linked to the filters by UV light. The P710P fragment was radiolabeled and used to hybridize with the filters. Positive cDNA clones were selected and their cDNAs recovered and sequenced by an automatic ABI Sequencer. Four sequences were obtained, and are presented in SEQ ID NOs:468-471.

From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for the purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the present invention is not limited except as by the appended claims.

CLAIMS

1. An isolated polypeptide comprising at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472;

(b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and

(c) complements of any of the sequence of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any one of SEQ ID NO: 108, 112, 113, 114, 172, 176, 178, 327, 329, 331, 339 and 383.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a prostate tumor protein, or a variant thereof that differs in one or more

substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

7. An isolated polynucleotide comprising a sequence that hybridizes, under moderately stringent conditions, to a sequence recited in any one of

SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector comprising a polynucleotide according to any one of claims 4-7.

10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An expression vector comprising a polynucleotide according claim 8.

12. A host cell transformed or transfected with an expression vector according to claim 11.

13. A pharmaceutical composition comprising a polypeptide according to claim 1, in combination with a physiologically acceptable carrier.

14. A vaccine comprising a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

15. A vaccine according to claim 14, wherein the non-specific immune response enhancer is an adjuvant.

16. A vaccine according to claim 14, wherein the non-specific immune response enhancer induces a predominantly Type I response.

17. A pharmaceutical composition comprising a polynucleotide according to claim 4, in combination with a physiologically acceptable carrier.

18. A vaccine comprising a polynucleotide according to claim 4, in combination with a non-specific immune response enhancer.

19. A vaccine according to claim 18, wherein the non-specific immune response enhancer is an adjuvant.

20. A vaccine according to claim 18, wherein the non-specific immune response enhancer induces a predominantly Type I response.

21. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a prostate tumor protein that comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472 or a complement of any of the foregoing polynucleotide sequences.

22. A pharmaceutical composition comprising an antibody or fragment thereof according to claim 18, in combination with a physiologically acceptable carrier.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

26. A vaccine according to claim 25, wherein the non-specific immune response enhancer is an adjuvant.

27. A vaccine according to claim 25, wherein the non-specific immune response enhancer induces a predominantly Type I response.

28. A vaccine according to claim 25, wherein the antigen-presenting cell is a dendritic cell.

29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

30. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polynucleotide according to claim 4, and thereby inhibiting the development of a cancer in the patient.

31. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antibody or antigen-

binding fragment thereof according to claim 21, and thereby inhibiting the development of a cancer in the patient.

32. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

33. A method according to claim 32, wherein the antigen-presenting cell is a dendritic cell.

34. A method according to any one of claims 29-32, wherein the cancer is prostate cancer.

35. A fusion protein comprising at least one polypeptide according to claim 1.

36. A fusion protein according to claim 35, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

37. A fusion protein according to claim 35, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.

38. A fusion protein according to claim 35, wherein the fusion protein comprises an affinity tag.

39. An isolated polynucleotide encoding a fusion protein according to claim 35.

40. A pharmaceutical composition comprising a fusion protein according to claim 32, in combination with a physiologically acceptable carrier.

41. A vaccine comprising a fusion protein according to claim 35, in combination with a non-specific immune response enhancer.

42. A vaccine according to claim 41, wherein the non-specific immune response enhancer is an adjuvant.

43. A vaccine according to claim 41, wherein the non-specific immune response enhancer induces a predominantly Type I response.

44. A pharmaceutical composition comprising a polynucleotide according to claim 40, in combination with a physiologically acceptable carrier.

45. A vaccine comprising a polynucleotide according to claim 40, in combination with a non-specific immune response enhancer.

46. A vaccine according to claim 45, wherein the non-specific immune response enhancer is an adjuvant.

47. A vaccine according to claim 45, wherein the non-specific immune response enhancer induces a predominantly Type I response.

48. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 40 or claim 44.

49. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a vaccine according to claim 41 or claim 45.

50. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;

wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the prostate tumor protein from the sample.

51. A method according to claim 50, wherein the biological sample is blood or a fraction thereof.

52. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 50.

53. A method for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of:

(i) a polypeptide according to claim 1;

(ii) a polypeptide encoded by a polynucleotide comprising a sequence provided in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;

(iii) a polynucleotide encoding a polypeptide of (i) or (ii); and/or

(iv) an antigen presenting cell that expresses a polypeptide of (i) or (ii);

under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

54. An isolated T cell population, comprising T cells prepared according to the method of claim 53.

55. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 54.

56. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

(i) a polypeptide according to claim 1;

(ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;

(iii) a polynucleotide encoding a polypeptide of (i) or (ii); or

(iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate; and

(b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

57. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

- (i) a polypeptide according to claim 1;
- (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
- (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
- (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate;

- (b) cloning at least one proliferated cell; and
- (c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

58. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent; and

(c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

59. A method according to claim 58, wherein the binding agent is an antibody.

60. A method according to claim 59, wherein the antibody is a monoclonal antibody.

61. A method according to claim 58, wherein the cancer is prostate cancer.

62. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

63. A method according to claim 62, wherein the binding agent is an antibody.

64. A method according to claim 63, wherein the antibody is a monoclonal antibody.

65. A method according to claim 62, wherein the cancer is a prostate cancer.

66. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

(c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

67. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

68. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

69. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor

protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

70. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

71. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

72. A diagnostic kit, comprising:

- (a) one or more antibodies according to claim 21; and
- (b) a detection reagent comprising a reporter group.

73. A kit according to claim 72, wherein the antibodies are immobilized on a solid support.

74. A kit according to claim 73, wherein the solid support comprises nitrocellulose, latex or a plastic material.

75. A kit according to claim 72, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

76. A kit according to claim 72, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

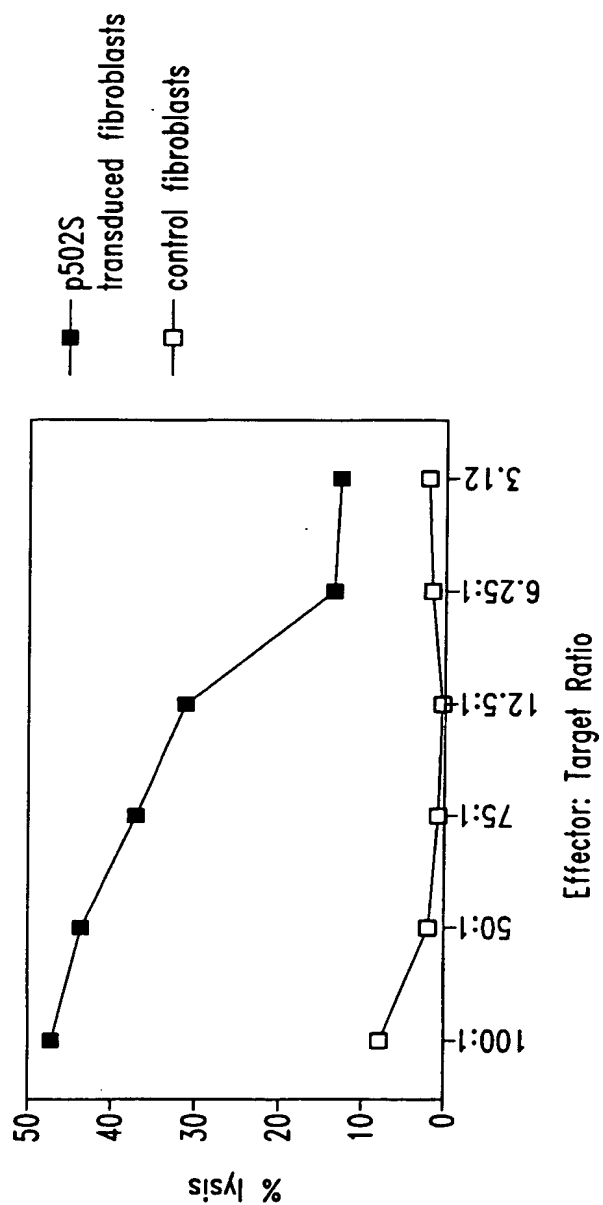
77. An oligonucleotide comprising 10 to 40 nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotides.

78. A oligonucleotide according to claim 77, wherein the oligonucleotide comprises 10-40 nucleotides recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

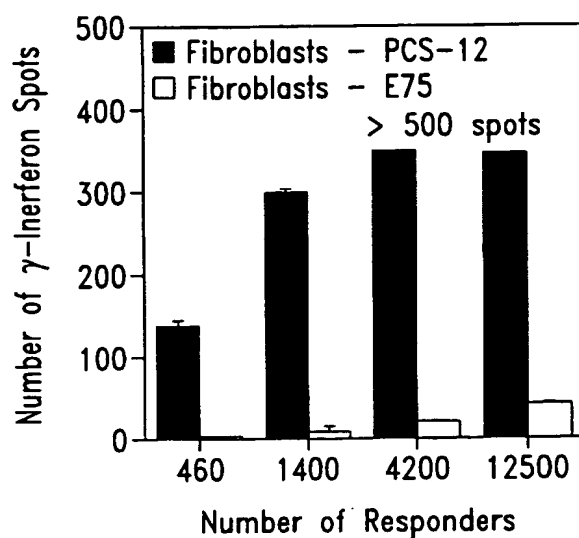
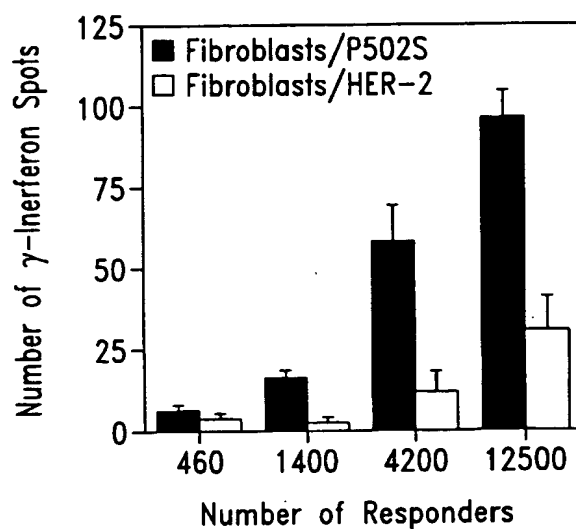
79. A diagnostic kit, comprising:

- (a) an oligonucleotide according to claim 77; and
- (b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

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*Fig. 1*

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*Fig. 2A**Fig. 2B*

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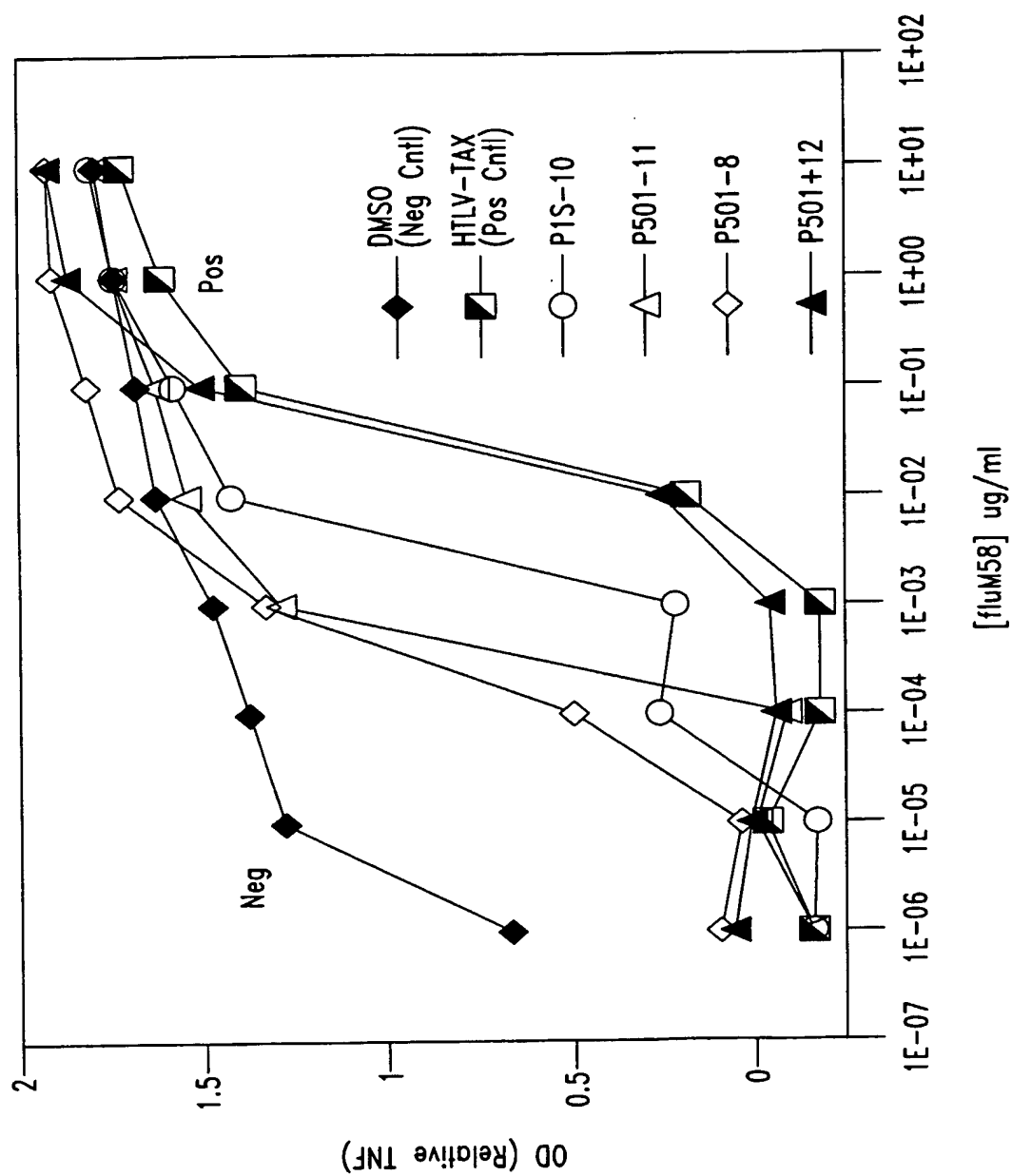


Fig. 3

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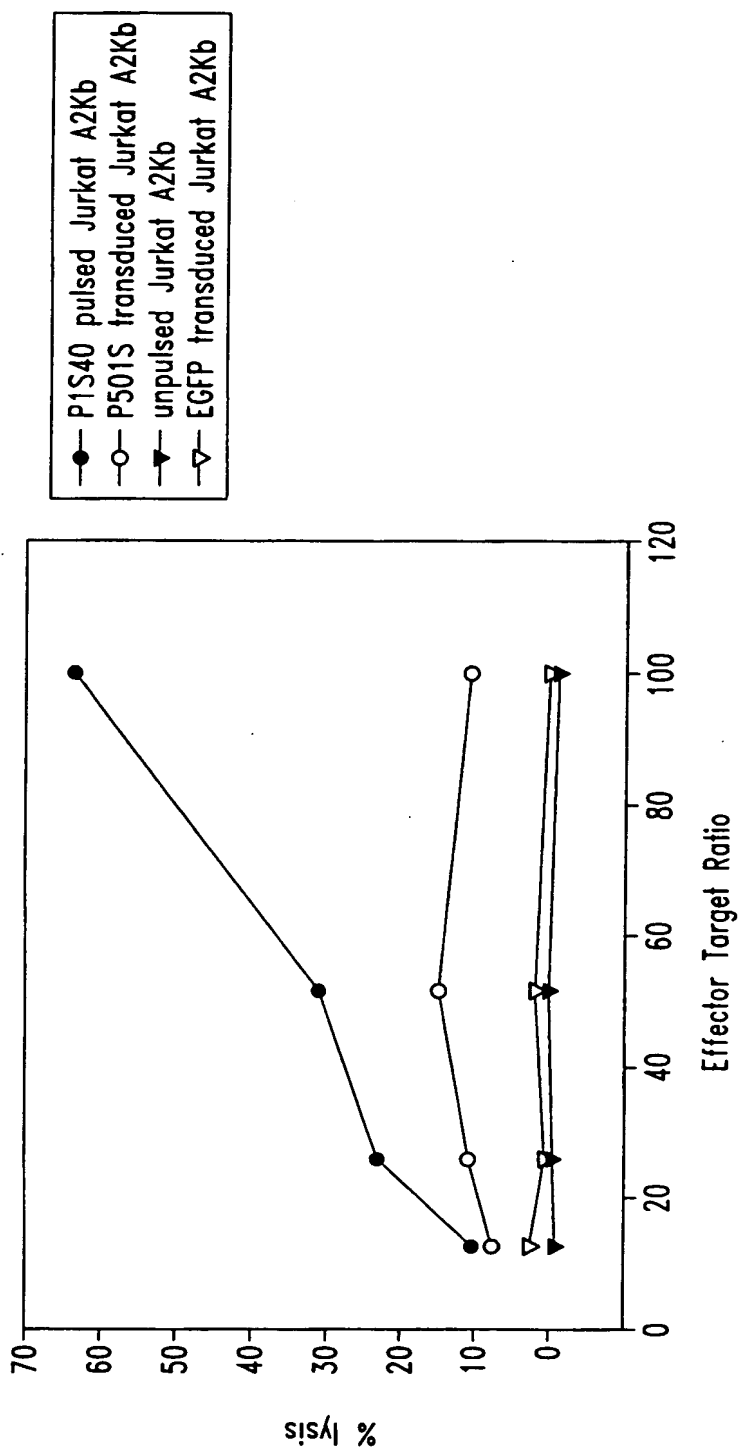
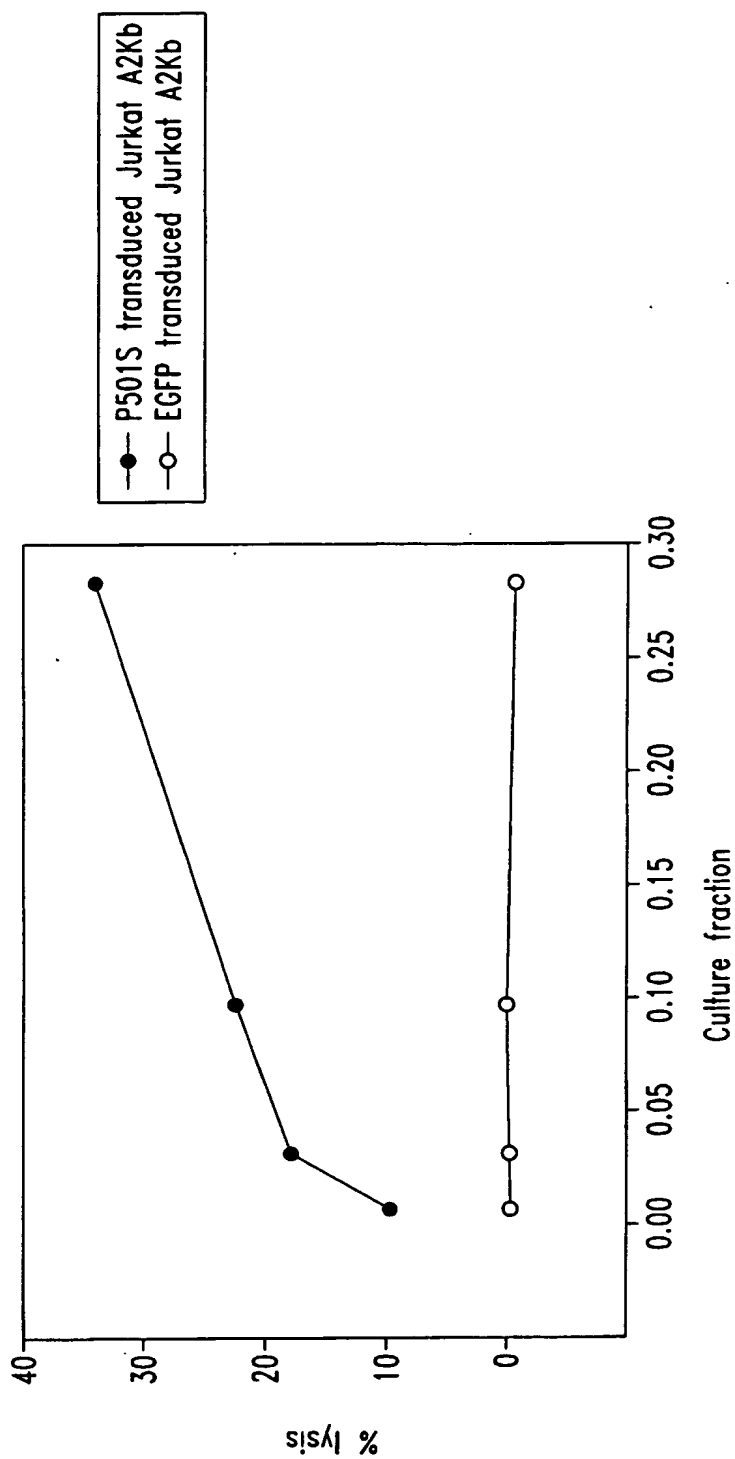
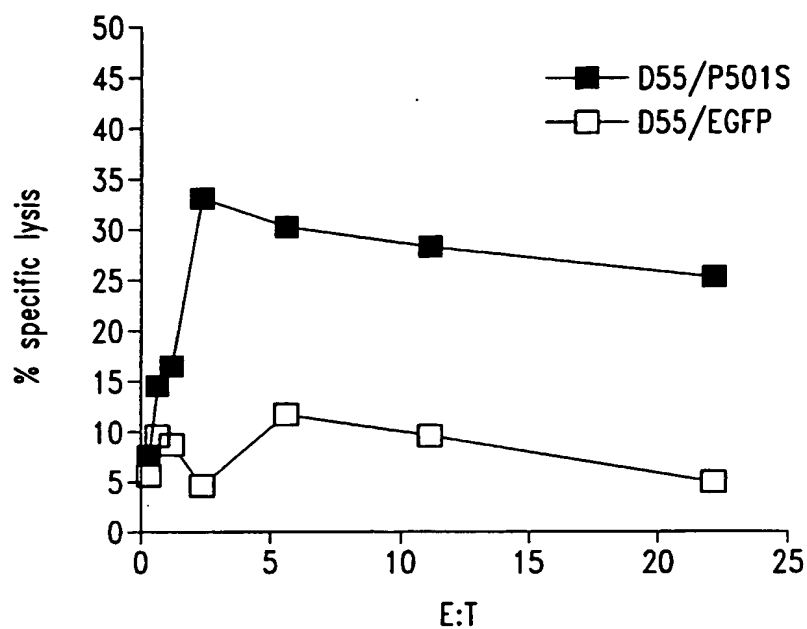
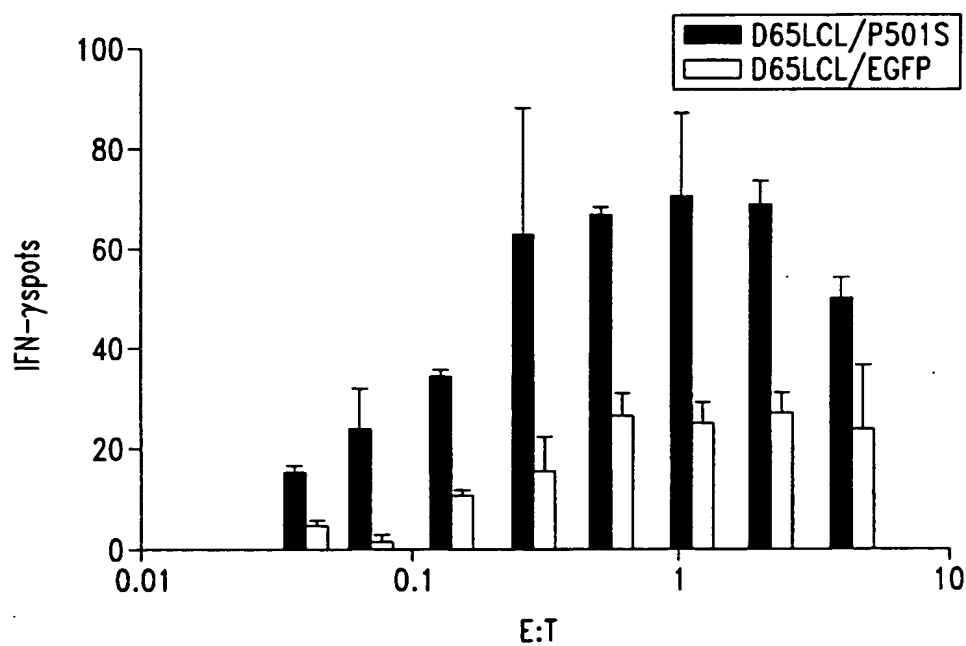


Fig. 4

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*Fig. 5*

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*Fig. 6A**Fig. 6B*

SEQUENCE LISTING

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DIAGNOSIS OF PROSTATE CANCER

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tcctgctcct	cactgggtgat	aaacgagccc	cgttccttgt	tgtgatcatg	atgaacaacc	120
tcctcaaaag	tcagaaccgg	agtcacacag	gcatctgtgc	cgtcaaagat	ttgacaccac	180
tctgccttcg	tcttctttgc	aaatacatct	gcaaacttct	tcttcatttc	tgcccaatca	240
tccatgctca	tctgattggg	aagttcatca	gactttagtc	canntccttt	gatcagcagc	300
tcgtagaact	ggggttctat	tgctccaaca	gccatgaatt	ccccatctgc	tgctctgtaa	360
gtcgtataga	aaggtgctcc	accatccaac	atgttctgtc	ctcgaggggg	ggcccgggtac	420
ccaattcgcc	ctatantgag	tcgtattacg	cgcgctcact	ggccgtcgtt	ttacaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tgacgacacat	ccccctttcg	540
ccagctgggc	gtaatancca	aaaggccccg	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggacccc	cctgttaccg	cgcattnaac	ccccgcnggg	tttngttggt	660
acccccacnt	nnaccgctta	cactttgccca	gcgccttanc	gcccgtctcc	tttncctttt	720
cttcccttcc	tttncnccn	ctttcccccg	gggtttcccc	cntcaaacc	cna	773

<210> 4
 <211> 828
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(828)
 <223> n = A,T,C or G

<400> 4						
cctcctgagt	cctactgacc	tgtgctttct	ggtgtggagt	ccagggctgc	taggaaaagg	60
aatgggcaga	cacaggtgta	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
tcggaacact	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaag	180
acgtgggtga	ccatgttggt	tgtgggggtgc	agagatggga	gggggtggggc	ccaccctgga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcatg	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgtgtcct	360
gnnggcactg	ggaagcctan	atnaggccgt	gagcanaaag	aaggggagga	tccactagtt	420
ctanagcgcg	cgccaccgcg	gtgganctcc	ancttttggt	cccttttagtg	agggtaatt	480
gcgcgcttgg	cntaatcatg	gtcatanctn	tttctgtgt	gaaattgtta	tccgctcaca	540
attccacaca	acatacganc	cggaacata	aantgtaaac	ctgggggtgcc	taatgantga	600
ctaactcaca	ttaattgcgt	tgcgctcact	gcccgttttc	caatcnggaa	acctgtcttg	660
ccncttgcat	tnatgaatcn	gccaaccccc	ggggaaaagc	gtttgcgttt	tgggcgctct	720
tccgcttcc	cnctcantta	ntccctnccn	tcggtcattc	cggctgcngc	aaaccggttc	780
accnctcca	aagggggtat	tccggtttcc	ccnaatccgg	ggananc		828

<210> 5
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 5

tttttttttt	tttttactga	tagatggaat	ttattaagct	tttcacatgt	gatagcacat	60
agttttaatt	gcatccaaag	tactaacaaa	aactctagca	atcaagaatg	gcagcatgtt	120
attttataac	aatcaacacc	tgtggctttt	aaaatttggt	tttcataaga	taattttatac	180
tgaagtaaat	ctagccatgc	ttttaaaaaa	tgcttttaggt	cactccaagc	ttggcagtta	240
acatttggca	taaaacaata	taaaacaatc	acaatttaat	aaataacaaa	tacaacattg	300
taggccataa	tcatatacag	tataaggaaa	aggtggtagt	gttgagtaag	cagttatttag	360
aatagaatac	cttggcctct	atgcaaatat	gtctagacac	tttgattcac	tcagccctga	420
cattcagttt	tcaaagtagg	agacagggtc	tacagtatca	ttttacagtt	tccaacacat	480
tgaaaacaag	tagaaaatga	tgagttgatt	tttattaatg	cattacatcc	tcaagagtta	540
tcaccaaccc	ctcagttata	aaaaattttc	aagttatatt	agtcataata	cttgggtgtgc	600
ttatttttaa	ttagtgctaa	atggattaaag	tgaagacaac	aatgggtccc	taatgtgatt	660
gatattggtc	atttttacca	gcttctaaat	ctnaactttc	aggcttttga	actggaacat	720
tgnatnacag	tgttccanag	ttncaaccta	ctggaacatt	acagtgtgct	tgattcaaaa	780
tgttattttg	ttaaaaatta	aattttaacc	tggtggaaaa	ataatttgaa	atna	834

<210> 6
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 6

tttttttttt	tttttttttt	aagaccctca	tcaatagatg	gagacatata	gaaatagtca	60
aaccacatct	acaaaatgcc	agtatcaggc	ggcggcttcg	aagccaaagt	gatgtttgga	120
tgtaaagtga	aatattagtt	ggcggatgaa	gcagatagtg	aggaaagttg	agccaataat	180
gacgtgaagt	ccgtggaagc	ctgtggctac	aaaaaatggt	gagccgtaga	tgccgtcgga	240
aatgggtgaag	ggagactcga	agtactctga	ggcttgtagg	agggtaaaaat	agagacccag	300
taaaattgta	ataagcagtg	cttgaattat	ttggtttcgg	ttgttttcta	ttagactatg	360
gtgagctcag	gtgattgata	ctcctgatgc	gagtaataacg	gatgtgttta	ggagtgggac	420
ttctagggga	tttagcgggg	tgatgcctgt	tggggggccag	tgccctccta	gttgggggggt	480
aggggctagg	ctggagtggt	aaaaggctca	gaaaaatcct	gcgaagaaaa	aaacttctga	540
ggtaataaat	aggattatcc	cgtatcgaag	gccttttttg	acaggtgggtg	tggtggtggcc	600
ttggtagtg	ctttctcgtg	ttacatcgcg	ccatcattgg	tatatggtta	gtgtgttggg	660
ttantangg	ctantatgaa	gaacttttgg	antggaatta	aatcaatngc	ttggccggaa	720
gtcattanga	nggctnaaaa	ggcctgttta	nggggtctggg	ctnggtttta	ccnaccat	780
ggaatncncc	ccccggacna	ntgnatccct	attcttaa			818

<210> 7
 <211> 817
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(817)
 <223> n = A,T,C or G

<400> 7

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cgggccctat	ttcaaagatt	tttaggggaa	ttaattctag	gacgatgggt	atgaaactgt	120
ggtttgctcc	acagatttca	gagcattgac	cgtagtatatac	ccccggctcg	gtagcgggtga	180

aagtgggttg	gttttagacgt	ccgggaattg	catctgtttt	taagccta	gtggggacag	240
ctcatgagtg	caagacgtct	tgtgatgtaa	ttattatacn	aatgggggct	tcaatcggga	300
gtactactcg	attgtcaacg	tcaaggagtc	gcaggtcgcc	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtcggt	gttctcctag	gttcaatacc	420
attggtggcc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tggtatgtaa	480
aggatncctt	ngggatggga	aggcnatnaa	ggactangga	tnaatggcgg	gcangatatt	540
tcaaacngtc	tctanttcct	gaaacgtctg	aaatgtta	aanaattaan	tttngttatt	600
gaatnttng	gaaaagggt	tacaggacta	gaaaccaa	angaaaanta	atnntaangg	660
cnttatcntn	aaaggtgnata	accnctccta	tnatcccacc	caatngnatt	ccccacnncn	720
acnattggat	nccccanttc	canaaanggc	cnccccccg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttattcnc	ccctngcntt	atcance			817

<210> 8

<211> 799

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(799)

<223> n = A,T,C or G

<400> 8

catttcggg	tttactttct	aaggaaagcc	gagcggaagc	tgctaactgtg	ggaatcgggtg	60
cataaggaga	actttctgct	ggcacgcgct	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcactgaaac	agctgggaca	catccgcgag	180
tacgaacagc	gcctgaaagt	gctggagcgg	gaggtccagc	agtgtagccg	cgtcctgggg	240
tgggtggccg	angcctganc	cgtcttgctt	tgtgtccccc	angtgggccc	ccaccccctg	300
acctgcctgg	gtccaaacac	tgagccctgc	tggcggaactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcggcc	ccccacactg	gttggccttg	420
tctttgangt	gagcccatg	tccatctggg	ccactgtcng	gaccaccttt	ngggagtgtt	480
ctccttacia	ccacannatg	cccggctcct	cccggaaacc	antcccancc	tgnngaaggat	540
caagnccctg	atccactnnt	nctanaaccg	gccnccnccg	cngtggaacc	cnccttntgt	600
tccttttctt	tnagggttaa	tnnccgcttg	gccttnccan	ngtccctnnc	nttttccnnt	660
gtnnaaattg	ttangcnccc	nccntcccn	cnnccnccan	cccgaaccnn	annntnnann	720
ncctgggggt	ncnncngat	tgaccnnc	nccctntant	tgcnttnggg	nncnntgccc	780
ctttccctct	nggganncg					799

<210> 9

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 9

acgccttgat	cctcccaggc	tgggactggt	tctggggagga	gccgggcatg	ctgtggtttg	60
taangatgac	actcccaaag	gtggtcctga	cagtggccca	gatggacatg	gggctcacct	120
caaggacaag	gccaccaggt	gcgggggccc	aagcccacat	gacccctact	ctatgagcaa	180
aatcccctgt	gggggcttct	ccttgaagtc	cgccancagg	gctcagtctt	tggacccang	240
caggatcatg	ggttgtngnc	caactggggg	ccncaacgca	aaanggcnc	gggectcngn	300
cacccatccc	angacgcggc	tacactnctg	gacctccncc	tccaccactt	tcatgcgctg	360
ttcntaccgc	cgnatntgtc	ccanctgttt	cngtgccnac	tccancttct	nggacgtgcg	420
ctacatacgc	ccggantcnc	nctcccgttt	tgtccctatc	cacgtncan	caacaaattt	480
cncctantng	caccnattcc	cacnttttnc	agntttccnc	nncgngcttc	cttntaaaag	540
ggttganc	cggaatnnc	cccaaagggg	ggggggcngg	taccacactn	ccccctnata	600
gctgaantcc	ccatnaccnn	gnctcnatgg	ancntccnt	tttaannacn	ttctnaactt	660
gggaananc	ctcgnccntn	ccccnttaa	tccncccttg	cnaangnncnt	cccccnntcc	720
ncccnntng	gcntntnann	cnaaaaaggc	ccnnnanc	tctcctnn	cctcanttgc	780

ccanccctcg aaatcgccn c

801

<210> 10
 <211> 789
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 10
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 acagtgtggc cgtggtgaca gcttcagccg cctcaccgg gttcaccttc tcagccctgc 120
 agatcctgcc ctacacactg gcctccctct accaccggga gaagcaggtg ttcctgcca 180
 aataccgagg ggacactgga ggtgctagca gtgaggacag cctgatgacc agcttcctgc 240
 caggccctaa gcctggagct ccctcccta atggacacgt ggggtgctga ggcagtggcc 300
 tgctccacc tccaccgcg ctctgcgggg cctctgcctg tgatgtctcc gtacgtgtgg 360
 tgggtgggtga gcccaccgan gccaggggtg ttccggggcc gggcatctgc ctggacctgc 420
 ccctcctgga tagtgcttcc tgctgtccca ngtggcccca tccctgttta tgggtccat 480
 tgtccagctc agccagtctg tcaactgccta tatggtgtct gccgcaggcc tgggtctggt 540
 ccatttact ttgctacaca ggtantattt gacaagaacg anttggccaa atactcagcg 600
 ttaaaaaatt ccagcaacat tgggggtgga aggcctgcct cactgggtcc aactccccgc 660
 tctgtttaac cccatggggc tgccggcttg gccgccaatt tctgttgctg ccaantnat 720
 gtggctctct gctgccacct gttgctggct gaagtgcnta cngcncanct nggggggtng 780
 gngttccc 789

<210> 11
 <211> 772
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11
 cccaccctac ccaaatatta gacaccaaca cagaaaagct agcaatggat tcccttctac 60
 tttgttaaat aaataagtta aatattttaa tgcctgtgtc tctgtgatgg caacagaagg 120
 accaacaggc cacatcctga taaaaggtaa gaggggggtg gatcagcaaa aagacagtgc 180
 tgtgggctga ggggacctgg ttcttgtgtg ttgcccctca ggactcttcc cctacaaata 240
 actttcatat gttcaaacc catggaggag tgtttcatcc tagaaactcc catgcaagag 300
 ctacattaaa cgaagctgca ggttaagggg cttanagatg ggaaaccagg tgactgagtt 360
 tattcagctc ccaaaaaccc ttctctaggt gtgtctcaac taggaggcta gctgttaacc 420
 ctgagcctgg gtaatccacc tgcagagtcc ccgcattcca gtgcatggaa cccttctggc 480
 ctccctgtat aagtccagac tgaaaacccc ttggaaggnc tccagtcagg cagccctana 540
 aactggggaa aaaagaaaag gacgccccan cccccagctg tgcantacg cacctcaaca 600
 gcacaggggtg gcagcaaaaa aaccacttta ctttggcaca aacaaaaact ngggggggca 660
 accccggcac cccnangggg gttaacagga ancngggnaa cntggaaccc aattnaggca 720
 ggcccncac ccnaatntt gctgggaaat ttttctctcc ctaaattntt tc 772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12

gcccccaattc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttggt	gcagggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtanggtg	agtcctcaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atggtggtgt	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	ggaagtgtc	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gaggangatg	aagaagaacg	tcncgagggc	420
acacttgctc	tcagtcttan	caccatanca	gcccntgaaa	accaananca	aagaccacna	480
cnccggctgc	gatgaagaaa	tnaccccncg	ttgacaaact	tgcatggcac	tggganccac	540
agtggcccn	aaaatcttca	aaaaggatgc	cccatcnatt	gaccccccaa	atgccactg	600
ccaacagggg	ctgccccacn	cncnnaacga	tgancnatt	gnacaagatc	tncttggtct	660
tnatnaacnt	gaacctgcn	tngtggctcc	tgttcaggnc	cnnggectga	cttctnaann	720
aangaactcn	gaagncccca	cngganannc	g			751

<210> 13

<211> 729

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(729)

<223> n = A,T,C or G

<400> 13

gagccaggcg	tcctctgcc	tgccccactca	gtggcaacac	ccgggagctg	ttttgtcett	60
tgtggancct	cagcagtncc	ctctttcaga	actcantgcc	aagancctg	aacaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcaattt	gctcatcttt	180
ctgtgtggtg	cagccctgtt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tcgggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgag	cggcgcttgt	ggtcttagct	ctagggttcc	tgggctgcta	tgggtgctaag	360
actgagagca	agtgtgccct	cgtgacgttc	ttcttcaccc	tcctcctcat	cttcattgct	420
gaggttgcaa	tgctgtggtc	gccttggtgt	acaccacaat	ggctgagcac	ttcctgacgt	480
tgctggtaat	gcctgccatc	aanaaaagat	tatgggttcc	caggaanact	tcactcaagt	540
gttgaacac	caccatgaaa	gggctcaagt	gctgtggctt	cnnccaacta	tacggatttt	600
gaagantcac	ctacttcaaa	gaaaanagtg	cctttccccc	atttctgttg	caattgacaa	660
acgtccccaa	cacagccaat	tgaaaacctg	cacccaaccc	aaangggctc	ccaaccanaa	720
attnaagg						729

<210> 14

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A,T,C or G

<400> 14

tgctcttctt	caaagttggt	cttggttgcca	taacaaccac	cataggtaaa	gcgggagcag	60
tgttcgctga	aggggttgta	gtaccagcgc	gggatgctct	ccttgacagag	tcctgtgtct	120
ggcagggtcca	cgcagtggcc	tttgtcactg	gggaaatgga	tgcgctggag	ctcgtcaaag	180
ccactcgtgt	atttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	natgcagcag	ccattgctgc	agcggaaactg	gggtggctga	300
cangtgccag	agcacactgg	atggcgctct	tccatggnan	gggccctgng	ggaaagtccc	360
tganccccan	anctgcctct	caaangcccc	accttgacac	ccccgacagg	ctagaatgga	420
atcttcttcc	cgaaaggtag	ttnttcttgt	tgcccaancc	ancccntaa	acaaactctt	480
gcanatctgc	tccngggggg	tontantacc	ancgtgggaa	aagaacccca	ggcngcgaac	540
caancttggt	tggatncgaa	gcnataatct	nctnttctgc	ttggtggaca	gcaccantna	600

ctgtnnanct	ttagnccntg	gtcctcntgg	ggtgnncttg	aacctaaten	ccnntcaact	660
gggacaaggt	aantngccnt	cctttnaatt	cccnancntn	ccccctgggt	tgggggtttt	720
cncnctccta	ccccagaaan	nccgtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaaccctn	ccccaccac	gggttcngnt	ggttng			816

<210> 15

<211> 783

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(783)

<223> n = A,T,C or G

<400> 15

ccaaggcctg	ggcaggcata	nacttgaagg	tacaacccca	ggaacccctg	gtgctgaagg	60
atgtggaaaa	cacagattgg	cgcctactgc	ggggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccaggtggaa	ctgtggggac	tcaaggaang	cacctacctg	ttccagctga	180
cagtgactag	ctcagaccac	ccagaggaca	cggccaacgt	cacagtcact	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcac	ccaacaangt	gggtcgcctg	cggggctctt	300
tcccacgctg	gtactatgac	cccacggagc	agatctgcaa	gagtttcgtt	tatggaggct	360
gcttgggcaa	caagaacaac	taccttcggg	aagaagagtg	cattctancc	tgtcnggggtg	420
tgcaagggtg	gcctttgana	ngcanctctg	gggctcangc	gactttcccc	cagggccctt	480
ccatggaaaag	gcgccatcca	ntgttctctg	gcacctgtca	gcccacccag	ttccgctgca	540
ncaatggctg	ctgcacnac	antttcctng	aattgtgaca	acacccccca	ntgcccccaa	600
ccctcccaac	aaagcttccc	tgtnnaaaaa	tacnccantt	ggcttttnac	aaacnccccg	660
cncctccntt	ttccccnntn	aacaaagggc	nctngcnttt	gaactgcccn	aaccnnggaa	720
tctnccnngg	aaaaantncc	ccccctgggt	cctnnaancc	cctccncnaa	anctncccc	780
ccc						816

<210> 16

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 16

gccccaatc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttgg	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtaggggtg	agtcctcaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atgggtgggtg	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	gaagtgtcga	gccattgtgg	tgtacaccaa	ggcgaccaca	360
gcagctgcaa	cctcagcaat	gaagatgagg	aggaggatga	agaagaacgt	cncgagggca	420
cacttgctct	ccgtcttagc	accatagcag	cccangaaac	caagagcaaa	gaccacaacg	480
cnngctgcga	atgaaagaaa	ntacccacgt	tgacaaactg	catggccact	ggacgacagt	540
tggcccgaa	atcttcagaa	aagggatgcc	ccatcgattg	aacacccana	tgcccactgc	600
cnacaggggt	gcncncncn	gaaagaatga	gccattgaag	aaggatcnc	ntggctcttaa	660
tgaactgaaa	ccntgcatgg	tggccctgt	tcagggctct	tggcagtgaa	ttctganaaa	720
aaggaacngc	ntnagcccc	ccaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	ccctgccccn	g				801

<210> 17

<211> 740

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(740)
 <223> n = A,T,C or G

<400> 17

gtgagagcca	ggcgtccctc	tgccctgccca	ctcagtgcca	acacccggga	gctgttttgt	60
cctttgtgga	gcctcagcag	ttccctcttt	cagaactcac	tgccaagagc	cctgaacagg	120
agccaccatg	cagtgtctca	gcttcattaa	gaccatgatg	atcctcttca	atttgctcat	180
ctttctgtgt	ggtgcagccc	tggtggcagt	gggcatctgg	gtgtcaatcg	atggggcatc	240
ctttctgaag	atcttcgggc	cactgtcgtc	cagtgccatg	cagtttgtca	acgtgggcta	300
cttcctcatc	gcagccggcg	ttgtggtctt	tgctcttggt	ttcctgggct	gctatggtgc	360
taagacggag	agcaagtgtg	ccctcgtgac	gttcttcttc	atcctcctcc	tcattctcat	420
tgctgaagtt	gcagctgctg	tggtcgccct	ggtgtacacc	acaatggctg	aaccattcct	480
gacgttgctg	gtantgcctg	ccatcaanaa	agattatggg	ttcccaggaa	aaattcactc	540
aantntggaa	caccnccatg	aaaagggctc	caatttctgn	tggtctcccc	aactataccg	600
gaattttgaa	agantcnccc	tacttccaaa	aaaaaanant	tgcttttncc	ccnttctgt	660
tgcaatgaaa	acntcccaan	acngccaatn	aaaacctgcc	cnnncaaaaa	ggntcncaaa	720
caaaaaaant	nnaagggttn					740

<210> 18
 <211> 802
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(802)
 <223> n = A,T,C or G

<400> 18

ccgctgggtg	cgctgggtcca	gngnagccac	gaagcacgtc	agcatacaca	gcctcaatca	60
caaggctctt	cagctgccgc	acattacgca	gggcaagagc	ctccagcaac	actgcatatg	120
ggatacactt	tacttttagca	gccagggtga	caactgagag	gtgtcgaagc	ttattcttct	180
gagcctctgt	tagtgaggga	agattccggg	cttcagctaa	gtagtcagcg	tatgtcccat	240
aagcaaacac	tgtgagcagc	cggaaggtag	aggcaaagtc	actctcagcc	agctctctaa	300
cattgggcat	gtccagcagt	tctccaaaaca	cgtagacacc	agnggcctcc	agcacctgat	360
ggatgagtgt	ggccagcgct	gcccccttgg	ccgacttggc	taggagcaga	aattgctcct	420
ggttctgccc	tgtcaccttc	acttccgcac	tcatactgc	actgagtgtg	ggggacttgg	480
gtcaggatg	tccagagacg	tggttcogcc	ccctcnctta	atgacaccgn	ccanncaacc	540
gtcggctccc	gccgantgng	ttcgctcgtc	ctgggtcagg	gtctgctggc	cnctacttgc	600
aancttcgtc	nggcccatgg	aattcacccn	accggaactn	gtangatcca	ctnnttctat	660
aaccggnccg	caccgcnnnt	ggaactccac	tcttnttncc	tttacttgag	ggttaaggtc	720
acccttnncc	ttaccttggg	ccaaacctn	ccntgtgtcg	anatngtnaa	tcnggncna	780
tnccanccnc	atangaagcc	ng				802

<210> 19
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 19

cnaagcttcc	aggtnacggg	ccgcnaancc	tgacccnagg	tancanaang	cagnncgagg	60
gagcccaccg	tcacngngng	gngtctttat	nggagggggc	ggagccacat	cnctggacnt	120
cntgacccca	actccccccc	ncncantgca	gtgatgagtg	cagaactgaa	ggtnacgtgg	180
caggaaccaa	gancaaannc	tgctccnntc	caagtcggcn	nagggggcgg	ggctggccac	240
gencatccnt	cnagtgtctg	aaagccccc	cctgtctact	tgtttgagga	acngcnngna	300

catgccccagn	ggtanataac	nggcngagag	tnanttttgc	tctcccttcc	ggctgcgcan	360
cgngtntgct	tagnggacat	aacctgacta	cttaactgaa	cccnngaate	tncnccccct	420
ccactaagct	cagaacaaaa	aacttcgaca	ccactcantt	gtcacctgnc	tgctcaagta	480
aagtgtaccc	catncccaat	gtntgctnga	ngctctgncc	tgcnttangt	tcggtcctgg	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gtccctctgna	acaancnacc	600
cnncnntcca	aggggggggnc	ggcccccaat	ccccccaacc	ntnaattnan	tttancccn	660
ccccnggcc	cggcctttta	cnancntcnn	nnacngggna	aaaccnnngc	tttncccaac	720
nnaatccncc	t					731

<210> 20

<211> 754

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(754)

<223> n = A,T,C or G

<400> 20

tttttttttt	tttttttttt	taaaaacccc	ctccattnaa	tgnaaaacttc	cgaaattgtc	60
caacccccctc	ntccaaatnn	ccntttccgg	gnggggggttc	caaacccean	ttanntttgg	120
annttaaatt	aaatnttntt	tgnggggnna	anccnaatgt	nangaaagt	naaccanta	180
tnactttnaa	tncctggaaa	ccngtngntt	caaaaaatnt	ttaaccetta	antccctccg	240
aaatngttna	nggaaaaccc	aantttctnt	aaggttggtt	gaaggntnaa	tnaaaaancc	300
nnccaattgt	tttngccac	gcctgaatta	attggnttcc	gntgttttcc	nttaaaanaa	360
ggnnancccc	ggttantnaa	tcccccnnc	cccaattata	ccganttttt	ttngaattgg	420
gancccnccg	gaattaacgg	ggnnnnntccc	tnttgggggg	cnggnncccc	ccccntcggg	480
ggttngggnc	aggncnnaat	tgtttaaggg	tccgaaaaat	ccctccnaga	aaaaaanctc	540
ccaggntgag	nnnggggtt	nncccccccc	cangggccct	ctcgnaaggt	tggggtttgg	600
ggggcctggg	attttntttc	ccctnttncc	tecccccccc	ccnggganag	aggttngngt	660
tttgntcnnc	ggccccnccn	aaganctttt	ccganttnan	ttaaatccnt	gcctnggcga	720
agtcnttgn	agggntaaan	ggccccctnn	cggg			754

<210> 21

<211> 755

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(755)

<223> n = A,T,C or G

<400> 21

atcancccat	gacccnaac	nngggaccnc	tcancggnc	nnncnaccnc	cggecnatca	60
nngtnagnnc	actncnnttn	natcacnccc	cncnactac	gccnncnanc	cnacgnctta	120
nncanathcc	actganngcg	cgangtngan	ngagaaanct	nataccanag	ncaccanacn	180
ccagctgtcc	nanaangcct	nnnatacngg	nnnatccaat	ntgnancctc	cnaagtattt	240
nncnncanat	gattttcctn	anccgattac	ccntncccc	tanccctctc	cccccaacna	300
cgaaggcnct	ggncnaagg	nngcgnccnc	ccgctagntc	cccnnaaggt	cncnnccta	360
aactcanccn	nattacnccg	ttcntgagta	tactccccg	aatctcacc	tactcaactc	420
aaaaanatch	gatacaaaat	aatncaagcc	tgnttatnac	actntgactg	ggtctctatt	480
ttagnngtcc	ntnaancntc	ctaatacttc	cagtctncc	tcnccaattt	ccnaanggt	540
ctttcngaca	gcatnttttg	gttcccnntt	gggttcttan	ngaattgcc	ttcntngaac	600
gggtcntct	tttcttcgg	ttancctgg	ttcnnccggc	cagttattat	ttccntttt	660
aaattcntnc	cntttanttt	tggcnttcna	aacccccggc	cttgaaaacg	gccccctggt	720
aaaaggttgt	tttganaaaa	tttttggttt	gttcc			755

<210> 22

<211> 849

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (849)

<223> n = A,T,C or G

<400> 22

tttttttttt	tttttangtg	tngtctgtgca	ggtagagggt	tactacaant	gtgaanacgt	60
acgctnggan	taangcgacc	cganttctag	gannncacct	aaaatcanac	tgtgaagatn	120
atcctgnnna	cggaanggtc	accggnngat	nntgctaggg	tgncncctcc	cannncnttn	180
cataactcng	nggccctgcc	caccaccttc	ggcgggccng	ngnccgggcc	cgggtcattn	240
gnnttaaccn	cactnngcna	ncggttteen	nceccnnng	accnnggcga	tccggggtn	300
tctgtcttcc	cctgnagncn	anaaantggg	ccnccgnccc	ctttaccct	nnacaagcca	360
cngcctteta	ncnccngccc	ccccctccant	nnnggggact	gccnanngt	ccgttntctng	420
nnaccccnnn	gggtncctcg	gttgctcgant	cnaccgnang	ccanggatcc	cnaagggaagg	480
tgcgttnttg	gcccctaccc	ttegtctnccg	nnaccccttc	ccgacnanga	nccgtccccg	540
cncnccgnng	cctnccctcg	caacacccgc	netctntngt	ncggnnnccc	ccccacccgc	600
ncctctcncc	ngnccgnancn	ctccnccncc	gtctcannca	ccaccccgcc	ccgccaggcc	660
ntcanccacn	ggngacnng	nagcncnttc	gcncgcgcgn	gcgnccctcc	cgcncnccgaa	720
ctnctctcng	ccantnccgc	tcaancnna	cnaaacgcgc	ctgcgcggcc	cgnagcgncc	780
ncctccncca	gtcctcccgn	cttcnacc	angnttccn	cgaggacacn	nnaccccgcc	840
nncangcgg						849

<210> 23

<211> 872

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (872)

<223> n = A,T,C or G

<400> 23

gcgcaaacta	tacttcgctc	gnactcgtgc	gcctcgtctc	tcttttcttc	cgcaaccatg	60
tctgacnanc	ccgattnggc	ngatctcnan	aagntcganc	agtccaaact	gantaacaca	120
cacacnncan	aganaaatcc	netgccttcc	anagtanaacn	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgcca	atntgtcncc	gtttattntn	ccagcctcnc	240
ctnccnacc	taentcttcn	nagctgtcnn	acccctngtn	cgnaccccc	naggtcgggga	300
tccgggtttn	nntgaccgng	cnnccctcc	ccccctccat	nacganccnc	ccgcaccacc	360
nanngcncgc	nccccgnnet	cttcgcncnc	ctgtcctntn	cccctgtngc	ctggcncngn	420
accgcattga	ccctcgccnn	ctnccnngaaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnnngcg	tctgcncgcg	gttccttccn	ncncttcca	ccatcttct	tacnggggtc	540
ccnccgcttc	tcnnncacnc	cctgggaagc	tnctctntgc	cccccttnac	tccccctt	600
cgncgtgncc	cgnccccacc	ntcatttnca	nacgntcttc	acaannncct	ggntnnctcc	660
cnancngncn	gtcanccnag	ggaagggngg	ggnnccnntg	nttgacgttg	ngngangtc	720
cgaanantcc	tcnccntcan	cnetacccct	cgggcgnnet	ctcngttnc	aacttancaa	780
ntctcccccg	ngngcncntc	tcagcctcnc	ccncccnct	ctctgcantg	tnctctgctc	840
tnaccnntac	gantnttcgn	cncctctt	cc			872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (815)

<223> n = A,T,C or G

<400> 24

gcatgcaagc	ttgagtattc	tatagngtca	cctaaatanc	ttggcntaat	catgggtcnta	.60
ncctgncttc	tgtgtcaaat	gtatacnaaa	tanatatgaa	tctnatntga	caaganngta	120
tcntncatta	gtaacaantg	tnntgtccat	cctgtcngan	canattccca	tnnattnecn	180
cgcattcnnc	gcncantatn	taatngggaa	ntcnnntnnn	ncaccnnncat	ctatcntncc	240
gcnccttgac	tggagagat	ggatnanttc	tnntntgacc	nacatgttca	tcttggattn	300
aananccccc	cgcngnccac	cggttngnng	cnagccnntc	ccaagacctc	ctgtggaggt	360
aacctgcgtc	aganncatca	aacntgggaa	accgcgnncc	angtnnaagt	ngnnncanan	420
gatcccgtec	aggnttnacc	atcccttcnc	agcgccccct	ttngtgcctt	anagnngnagc	480
gtgtccnanc	cncatcaacat	ganacgcgcc	agnccanccg	caattnggca	caatgtcgnc	540
gaaccccccta	gggggantna	tncaaanccc	caggattgtc	cncncangaa	atcccnanc	600
cccnccttac	ccncttttgg	gacngtgacc	aantcccggg	gtncacagtc	ggccngnctc	660
ccccaccggt	nnccntgggg	gggtgaanct	cngnntcanc	cngncgaggn	ntcgnaagga	720
accggncctn	ggncgaannn	ancnntcnng	agncccnctc	cgtataaacc	cccctcncca	780
nccnacngnt	agntcccccc	cngggtnccg	aangg			815

<210> 25
 <211> 775
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(775)
 <223> n = A,T,C or G

<400> 25						
ccgagatgtc	tcgctccgtg	gccttagctg	tgtctcgctc	actctctctt	tctggcctgg	60
aggctatcca	gcgtactcca	aagattcagg	tttactcacg	tcacccagca	gagaatggaa	120
agtcaaattt	cctgaattgc	tatgtgtctg	ggtttcatcc	atccgacatt	gaanttgact	180
tactgaagaa	tgganagaga	attgaaaaag	tggagcattc	agacttgtct	ttcagcaagg	240
actggtcttt	ctatctcntg	tactacactg	aattcacccc	cactgaaaaa	gatgagtatg	300
cctgccgtgt	gaaccatgtg	actttgtcac	agcccaagat	agttaaagtg	gatcgagaca	360
tgtaagcagn	cnncatggaa	gtttgaagat	gccgcatttg	gattggatga	attccaaatt	420
ctgcttgctt	gcnttttaat	antgatatgc	ntatacaccc	taccctttat	gnccccaatt	480
tgtagggggt	acatnantgt	tcnctnngga	catgatcttc	ctttataant	ccnccnttcg	540
aattgcccgt	cncccnngtn	ngaattgttc	cnnaaccacg	gttggtctcc	ccaggtcncc	600
tcttacggaa	gggcctgggc	cnctttncaa	ggttggggga	accnaaaatt	tcnctntnng	660
ccncccncca	cnntcttgng	nnccnctttt	ggaaaccttc	cnattcccc	tggcctcnna	720
ncctttncta	anaaaaactn	aaancgtngc	naaanntttt	acttcccccc	ttacc	775

<210> 26
 <211> 820
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(820)
 <223> n = A,T,C or G

<400> 26						
anattantac	agtgtaatct	tttcccagag	gtgtgtanag	ggaacggggc	ctagaggcat	60
cccanagata	nccttatanca	acagtgcctt	gaccaagagc	tgctgggcac	atttcctgca	120
gaaaagggtg	cgggtcccat	cactcctcct	ctcccatagc	catcccagag	gggtgagtag	180
ccatcangcc	ttcgggtggga	gggagtcang	gaaacaacan	accacagagc	anacagacca	240
ntgatgacca	tgggcgggag	cgagcctctt	ccctgnaccg	gggtggcana	nganagccta	300
ncctgagggg	cacactataa	acgttaacga	ccnagatnan	cacctgcttc	aagtgcaccc	360
ttcctacctg	acnaccagng	accnnnaact	gcngcctggg	gacagcncct	ggancagcta	420
acnnagcact	cacctgcccc	cccatggccg	tnccgntccc	tggtcctgnc	aagggaagct	480
ccctgtttga	attncgggga	naccaaggga	ncctccctct	ccanctgtga	aggaaaaann	540
gatggaattt	tncccttcgg	gcenntcccc	tcttccctta	cacgccccct	nnactcctc	600
tccctctntt	ntcctgncnc	acttttnacc	ccnnnatttc	ccttnattga	tcggannctn	660

ganattccac tnnccctnc cntcnatcng naanacnaaa nactntctna cccnggggat 720
 gggnnccctcg ntcacccctct ctttttctnt accnccnntt ctttgccctct ccttngatca
 780tccaaccntc gntggccntn cccccccnnn tccttttccc
 820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27
 tctgggtgat ggcctcttcc tcctcaggga cctctgactg ctctgggcca aagaatctct 60
 tgtttcttct ccgagcccca ggcagcggtg attcagccct gcccaacctg attctgatga 120
 ctgacggatgc tgtgacggac ccaaggggca aatagggtcc cagggtccag ggaggggagc 180
 ctgctgagca cttccgcccc tcacctgcc cagccctgc catgagctct gggctgggtc 240
 tccgcctcca gggttctgct cttccangca ngccancaag tggcgtctgg ccacactggc 300
 ttcttctctgc cccntccctg gctctganc tctgtcttcc tgtcctgtgc angcnccttg 360
 gatctcagtt tccctcctc anngaactct gtttctgann tcttcantta actntgantt 420
 tatnaccnan tggngctgnc tgtcnnactt taatgggcn gaccggctaa tccctccctc 480
 nctcccttcc anttccnnna accngcttnc cntctctcc ccntancccg ccngggaanc 540
 ctcccttgcc ctnaccangg gccnnnaccc cccntnnctn ggggggcnng gtnnctnnc 600
 ctgntnccc cctcncnnt tncctcgcc cncnncgcn nngcannntc ncngtcccn 660
 tnnctcttct ngntcgnaa ngntcncntn tnnnnngncc ngntnntncc tccctctcnc 720
 cnnntgnang tnnntnnnnc ncngncccc nnnnnnnnn nggnntnnn tctnccngc 780
 cccnncccc ngnattaagg cctccnntct ccggccnc 818

<210> 28
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 28
 aggaagggcg gagggatatt gtangggatt gagggatagg agnataangg gggaggtgtg 60
 tcccaacatg anggtgnngt tctcttttga angaggggtg ngtttttann ccnggtgggt 120
 gattnaacct cattgtatgg agnnaaaggn tttnagggat ttttcggctc ttatcagtat 180
 ntanattcct gtnaatcgga aaatnatntt tcnnccngaa aatnttgctc ccatccgnaa 240
 attnctcccg ggtagtgcac nttngggggn cngccangtt tcccaggctg ctanaatcgt 300
 actaaagntt naagtgggan tncaaatgaa aacctnnac agagnatccn taccgactg 360
 tnnnttncct tcgccctntg actctgcng agcccaatac ccngngnat gtcncccnng 420
 nnnccgncnc tgaaannnnc tcngggetnn gancatcang gggtttcgca tcaaaagcnn 480
 cgtttcncat naaggcactt tngcctcacc caaccnctng cctcnncca tttngccgtc 540
 nggttncct acgctnntng cncctnnntn ganattttnc ccgctnngg naancctcct 600
 gnaatgggta gggncctntc ttttnaccnn gnggtntact aatcnnctnc acgcntnctt 660
 tctcnacccc ccccttttt caatccanc ggcnaatggg gtctcccnng cgangggggg 720
 nnnccannc c 731

<210> 29
 <211> 822
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(822)
 <223> n = A,T,C or G

<400> 29
 actagtccag tgtggtggaa ttccattgtg ttggggncnc ttctatgant antnttagat 60
 cgctcanacc tcacancctc ccnacnangc ctataangaa nannaataga nctgtncnnt 120
 atntntacnc tcatanncct cnnnaccacac tccctcttaa cccntactgt gcctatngcn 180
 tnnctantct ntgccgcctn cnanccaccn gtggggccnac cncnngnatt ctcnatctcc 240
 tcnccatntn gcctananta ngtncatacc ctatacctac nccaatgcta nnnctaancn 300
 tccatnantt annntaacta ccactgacnt ngactttcnc atnanctcct aatttgaatc 360
 tactctgact cccacngcct annnattagc ancntccccc nacnatntct caaccaaadc 420
 ntcaacaacc tatctanctg ttcnccaacc nttncctccg atccccnnac aacccccctc 480
 ccaaataccc nccacctgac ncctaaccn caccatcccg gcaagccnan ggncatttan 540
 ccactggaat cacnatngga naaaaaaac ccnaactctc tancncnnat ctccctaana 600
 aatnctcctn naatttactn ncantnccat caanccacn tgaaacnaa cccctgtttt 660
 tanatccctt ctttgcgaaa ccnacccttt annncccaac ctttngggcc ccccnctnc 720
 ccnaatgaag gncncccaat cnangaaacg nccntgaaa ancnaggcna anannntccg 780
 canatcctat cccttanttn ggggnccctt nccnngggcc cc 822

<210> 30
 <211> 787
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(787)
 <223> n = A,T,C or G

<400> 30
 cggccgcctg ctctggcaca tgcctcctga atggcatcaa aagtgatgga ctgcccattg 60
 ctagagaaga ctttctctcc tactgtcatt atggagccct gcagactgag ggctcccctt 120
 gtctgcagga tttgatgtct gaagtgcgtg agtgtggctt ggagctcctc atctacatna 180
 gctggaagcc ctggagggcc tctctcgcca gcctccccct tctctccacg ctctccangg 240
 acaccagggg ctccaggcag cccattatcc ccagnangac atgggtgttc tccacgcgga 300
 cccatggggc ctgnaaggcc aggggtctct ttgacaccat ctctcccgtc ctgctgggca 360
 ggccgtggga tccactantt ctanaacggg cgccaccncg gtgggagctc cagcttttgt 420
 tcccnttaat gaaggttaat tgcncgcttg gcgtaatcat nggtcanaac tntttcctgt 480
 gtgaaattgt ttntccctc ncnattccnc ncnacatacn aacccggaan cataaagtgt 540
 taaagcctg gggtnccctn nngaataaac tnaactcaat taattgcgtt ggctcatggc 600
 ccgctttccn ttcnngaaaa ctgtctntccc ctgcnttntt gaatcggcc ccccnnggg 660
 aaaagcggtt tgcnttttng ggggntcctt ccncttcccc cctcnctaan ccctnccct 720
 cggtcgtnnc nggtngcggg gaanggggat nnnctcccnc naagggggng agnnngntat 780
 ccccaaa 787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 31
 tttttttttt tttttttggc gatgctactg ttttaattgca ggaggtgggg gtgtgtgtac 60
 catgtaccag ggctattaga agcaagaagg aaggaggagg ggcagagcgc cctgctgagc 120
 aacaaaggac tccctgcagcc ttctctgtct gtctcttggc gcaggcacat ggggaggcct 180
 cccgcagggt gggggccacc agtccagggg tgggagcact acanggggtg ggagtggggtg 240
 gtggctggtg cnaatggcct gncacanatc cctacgattc ttgacacctg gatttcacca 300

ggggaccttc	tgttctccca	nggnaacttc	ntnnatctcn	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagcaca	ggtgtccnat	ttnggctggg	acttggtaca	420
tatgggtccg	gcccacctct	cccntcnaaa	aagtaattca	ccccccccc	ccntctnttg	480
cctggggccct	taantaccca	caccggaact	canttantta	ttcatcttng	gntgggcttg	540
ntnatcnccn	cctgaangcg	ccaagttgaa	aggccacgcc	gtncnccnctc	cccatagnan	600
ntttttnctt	canctaattg	ccccccnggc	aacnatccaa	tcccccccn	tgggggcccc	660
agcccgangc	ccccgntctg	ggnnnccngn	cncgnantcc	ccaggntctc	ccantcngnc	720
ccnnngcncc	cccgacgcga	gaacanaagg	ntngagccnc	cgcannnnnn	nggtnnncac	780
ctcgcccccc	ccnnccngng					799

<210> 32

<211> 789

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(789)

<223> n = A,T,C or G

<400> 32

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttccnag	ggcaggttta	ttgacaacct	cncgggacac	aancaggctg	gggacaggac	120
ggcaacaggc	tccggcgccg	gcggcgccg	ccctacctgc	ggtaccaa	ntgcagcctc	180
cgctcccgt	tgatnttcct	ctgcagctgc	aggatgccnt	aaaacagggc	ctcgcccntn	240
ggtgggcacc	ctgggatttn	aatttccacg	ggcacaatgc	ggtcgcancc	cctcaccacc	300
nattaggaat	agtggnttta	ccnccncccg	ttggcncact	ccccntggaa	accacttntc	360
gcggctccgg	catctggtct	taaaccttgc	aaacnctggg	gccctctttt	tggttantnt	420
nccngccaca	atcatnactc	agactggcnc	gggctggccc	caaaaaancn	ccccaaaacc	480
ggncatgtc	ttnnccgggt	tgctgcnatn	tncatcacct	cccgggcnca	ncaggncaac	540
ccaaaagttc	ttgnggcccn	caaaaaanct	ccggggggnc	ccagtttcaa	caaagtcatc	600
ccccttggcc	cccaaatact	ccccccgntt	nctgggtttg	ggaacccacg	cctctnnctt	660
tggnnggcaa	gntggntccc	ccttcggggc	cccggtgggc	ccnctcttaa	ngaaaacncc	720
ntcctnnnca	ccatcccccc	nngnnacgnc	tancaangna	tccctttttt	tanaaacggg	780
ccccccnccg						789

<210> 33

<211> 793

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(793)

<223> n = A,T,C or G

<400> 33

gacagaacat	ggtggatggt	ggagcacctt	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tggtggagca	atanaacccc	agttctacga	gctgctgac	aaaggacttg	120
gactaaagtc	tgatgaactt	cccaatcaga	tgagcatgga	tgattggcca	gaaatgaana	180
agaagtattg	agatgtattt	gcaaagaaga	cgaaggcaga	gtggtgtcaa	atctttgacg	240
gcacagatgc	ctgtgtgact	ccggttctga	cttttgagga	ggttggtcat	catgatcaca	300
acaangaacg	gggctcggtt	atcaccantg	aggagcagga	cgtgagcccc	cgccctgcac	360
ctctgctgtt	aaacaccccc	gccatccctt	ctttcaaaa	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggagc	tccagctttt	gttcccttta	gtgagggtta	attgcgcgct	480
tggcgtaatc	atgggtcatn	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	anccggaagc	atnaaatttt	aaagcctggg	ggtngcctaa	tgantgaact	600
nactcacatt	aattggcttt	gcgctcactg	cccgttttcc	agtcgggaaa	acctgtcctt	660
gccagctgcc	nttaatgaat	cnggccaccc	cccggggaaa	aggcngtttg	cttnttgggg	720
cgcncttccc	gctttctcgc	ttcctgaant	ccttcccccc	ggtctttcgg	cttgccgcna	780
acggtatcna	cct					793

<210> 34
 <211> 756
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(756)
 <223> n = A,T,C or G

<400> 34

gccgcgaccg	gcatgtacga	gcaactcaag	ggcgagtgga	accgtaaaag	ccccaatctt	60
ancaagtgcg	gggaanagct	gggtcgactc	aagctagttc	ttctggagct	caacttcttg	120
ccaaccacag	ggaccaagct	gaccaaacag	cagctaattc	tggcccgtga	catactggag	180
atcggggccc	aatggagcat	cctacgcaan	gacatcccct	ccttcgagcg	ctacatggcc	240
cagctcaaat	gctactactt	tgattacaan	gagcagctcc	ccgagtcagc	ctatatgcac	300
cagctcttgg	gcctcaacct	cctcttctctg	ctgtcccaga	accgggtggc	tgantnccac	360
acgganttgg	ancggctgcc	tgcccanga	catacanacc	aatgtctaca	tcnaccacca	420
gtgtccttga	gcaatactga	tggaaggcag	ctaccncaa	gtnttctctg	ccnagggtaa	480
catccccgcg	cgagagctac	accttcttca	ttgacatcct	gctcgacact	atcagggatg	540
aaaatcgcn	gggtgtctca	gaaaggctnc	aanaanatcc	ttttcncctga	aggcccccg	600
atncnctagt	nctagaatcg	gccccccatc	gcggtgganc	ctccaacctt	tcgttncctt	660
ttactgaggg	ttnattgccg	cccttggcgt	tatcatggtc	acnccngttn	cctgtgttga	720
aattnttaac	ccccacaa	tccacgccna	cattnng			756

<210> 35
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 35

ggggatctct	anatnacct	gnatgcatgg	ttgtcggtgt	ggtcgctgtc	gatgaanatg	60
aacaggatct	tgcccttgaa	gctctcggtc	gctgtnttta	agttgctcag	tctgccgtca	120
tagtcagaca	cnetcttggg	caaaaaacan	caggatntga	gtcttgattt	cacctccaat	180
aatcttcngg	gctgtctgct	cggtgaactc	gatgacnang	ggcagctggt	tgtgtntgat	240
aaantccanc	angttctct	tggtgacctc	cccttcaaag	ttgttccggc	cttcatcaaa	300
cttctnnaan	angannancc	canctttgtc	gagctggnat	ttgganaaca	cgctactgtt	360
ggaaactgat	cccaaattgt	atgtcatcca	tcgcctctgc	tgccctgcaa	aaacttgctt	420
ggcncaaate	cgactcccn	tccttgaaag	aagccnatca	cacccccctc	cctggactcc	480
nncaangact	ctnccgctnc	cccntccnng	caggggttgg	ggcanncccg	gcccntgcgc	540
ttcttcagcc	agttcacnat	nttcatcagc	ccctctgcc	gctgtnttat	tccttggggg	600
ggaanccgtc	tctcccttcc	tgaannaact	ttgaccgtng	gaatagccgc	gcntcnccnt	660
acntnctggg	ccgggttcaa	antccctecn	ttgnenntcn	cctcggggcca	ttctggattt	720
nccnaacttt	ttccttcccc	cncctccnng	ngtttggnnt	tttcatnggg	ccccaaactc	780
gctnttggcc	antcccttgg	gggcntntan	cncctccntn	ggcctccntng	ggcc	834

<210> 36
 <211> 814
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(814)
 <223> n = A,T,C or G

<400> 36

cggnccgcttt	ccngccgcgc	cccgtttcca	tgacnaaggc	tcccttcang	ttaaatacnn	60
cctagnaaac	attaatgggt	tgctctacta	atacatcata	cnaaccagta	agcctgcccc	120
naacgccaac	tcaggccatt	cctaccaaag	gaagaaaggc	tggtctctcc	acccccctga	180
ggaaaggcct	gccttgtaag	acaccacaat	ncggctgaat	ctnaagtctt	gtgttttact	240
aatgggaaaa	aaaaataaac	aanaggtttt	gttctcatgg	ctgcccaccg	cagcctggca	300
ctaaaaacanc	ccagcgctca	cttctgcttg	ganaaatatt	ctttgctctt	ttggacatca	360
ggcttgatgg	tatcactgcc	acntttccac	ccagctgggc	ncccttcccc	catntttgtc	420
antganctgg	aaggcctgaa	ncttagtctc	caaaagtctc	ngcccacaag	accggccacc	480
aggggangtc	ntttncagt	gatctgccaa	anantaccn	tatcatcnnt	gaataaaaaag	540
gccccgaac	ganatgcttc	cancancctt	taagacccat	aatcctngaa	ccatggtgcc	600
cttccggtct	gatccnaaag	gaatgttctt	gggtcccant	ccctcctttg	ttntttacgt	660
tgtnttggac	ccntgctngn	atnaccnaan	tganatcccc	ngaagcacc	tnccccctggc	720
atttganttt	cntaaattct	ctgcctacn	nctgaaagca	cnattccctn	ggcnccnaan	780
ggngaactca	agaaggtctn	ngaaaaacca	cncn			814

<210> 37
 <211> 760
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(760)
 <223> n = A,T,C or G

<400> 37						
gcattgctgct	cttctcctcaaa	gttggttcttg	ttgccataac	aaccaccata	ggtaaagcgg	60
gcgcagtggt	cgctgaagg	gttgtagtac	cagcgcgggga	tgctctcctt	gcagagtcct	120
gtgtctggca	gggccacgca	atgccctttg	tactggggga	aatggatgag	ctggagctcg	180
tcnaanccac	tcgtgtattt	ttcacangca	gcctcctccg	aagcctccgg	gcagttgggg	240
gtgtcgtcac	actccactaa	actgtcgatn	cancagccca	ttgctgcagc	ggaactgggt	300
gggctgacag	gtgccagaac	acactggatn	ggcctttcca	tggaagggcc	tgggggaaat	360
cncctnancc	cactatgcct	ctcaaaggcc	accttgccca	ccccgacagg	ctagaaatgc	420
actcttcttc	ccaaaggtag	ttgttcttgt	tgcccaagca	ncctccanca	aacccaaaanc	480
ttgcaaaatc	tgctccgtgg	gggtcatnnn	taccanggtt	ggggaaanaa	acccggcngn	540
ganccncctt	gtttgaatgc	naaggnaata	atcctcctgt	cttgcttggg	tggaaanagca	600
caattgaaact	gttaacnttg	ggccnggttc	cncnnggtg	gtctgaaact	aatcaccgtc	660
actggaaaaa	ggtangtgcc	ttccttgaat	tcccaaantt	ccccnngntt	tgggtntttt	720
ctcctctncc	ctaaaaatcg	tnttcccccc	centangggc			760

<210> 38
 <211> 724
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(724)
 <223> n = A,T,C or G

<400> 38						
tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttccnaaat	tgtccaaccc	cctcncccaa	atnnccattt	ccgggggggg	gttccaaacc	120
caaattaatt	ttgganttta	aattaaatnt	tnattngggg	aanaanccaa	atgtnaagaa	180
aatttaaccc	attatnaact	taaatnccn	gaaacccntg	gnttccaaaa	atttttaacc	240
cttaaatccc	tccgaaattg	ntaanggaaa	accaaattcn	cctaaggctn	tttgaaaggt	300
ngattttaaac	ccccctnant	tnttttnacc	cnngnctnaa	ntatttngnt	tccggtgttt	360
tcctnttaan	cntnggtaac	tcccngtaat	gaannnccct	aanccaatta	aaccgaattt	420
tttttgaaatt	ggaaattccn	ngggaattna	ccgggggttt	tcccnnttgg	gggccatncc	480
cccnctttcg	gggtttgggn	ntaggttgaa	tttttnnang	ncccaaaaaa	ncccccaana	540
aaaaaactcc	caagnnttaa	ttngaattnc	ccccctccca	ggccttttgg	gaaaggnggg	600
ttntgtgggg	ccnggggantt	cnttcccccn	ttncncccc	ccccccnggt	aaanggttat	660

ngnnttttgggt ttttgggccc cttnanggac cttccggatn gaaattaaat ccccgggncg 720
gccg 724

<210> 39
<211> 751
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(751)
<223> n = A,T,C or G

<400> 39
tttttttttt tttttctttg ctcacattta atttttatatt tgattttttt taatgctgca 60
caacacaata tttatttcat ttgtttcttt tatttcattt tatttgtttg ctgctgctgt 120
tttattttatt tttactgaaa gtgagaggga acttttgttg ctttttttcc tttttctgta 180
ggccgcctta agctttctaa atttgggaaca tctaagcaag ctgaanggaa aaggggggtt 240
cgcaaaatca ctcgggggga nggaaaggtt gctttgttaa tcatgcccta tgggtgggtga 300
ttaactgctt gtacaattac ntttcacttt taattaattg tgctnaangc ttaattana 360
cttggggggt cctcccccac accaaccctc ctgacaaaaa gtgccngccc tcaaatnatg 420
tcccggcnnt cnttgaaaca cacngcngaa ngttctcatt ntcccccnc caggtnaaaa 480
tgaagggtta ccatntttta cncacacctc acntggcnnn gcctgaatcc tcnaaaancn 540
cctcaannc aattnctnng ccccggtcnc gcntnngtcc cncgggggt cgggaantn 600
cacccccnga anncnntnnc naacnaaatt ccgaaaatat tcccnntcnc tcaattcccc 660
cnnagactnt cctcnncnan cncaattttc ttttnntcac gaacncgnnc cnnaaatgn 720
nnnnncctc cncnngtcn naatcnccan c 751

<210> 40
<211> 753
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(753)
<223> n = A,T,C or G

<400> 40
gtggtatttt ctgtaagatc aggtgttctt cctcgttagg tttagaggaa acaccctcat 60
agatgaaaac ccccccgaga cagcagcact gcaactgcca agcagccggg tagggagggg 120
cgccctatgc acagctgggc ccttgagaca gcagggttc gatgtcaggc tcgatgtcaa 180
tggtctggaa gcggcggtg tacctgcgta ggggcacacc gtcagggcc accaggaaact 240
tctcaaagtt ccaggcaacn tegtgtcgac acaccggaga ccagggtgatn agcttgggggt 300
cggtcataa cgcgggtggcg tegtgtcgag gagctggcag ggcctcccgc aggaaggcna 360
ataaaagggt cgcccccgca cegtctcact cgcacttctc naanaccatg angttgggt 420
cnaaccacc accannccgg acttctctga nggaattccc aaatctcttc gntcttgggc 480
ttctnctgat gccctanctg gttgcccnng atgccaanca nccccaancc ccgggggtcct 540
aaanaccn cctctctntt tcatctgggt tntntcccc ggacnttgt tctctcaag 600
ggancccata tctcnaccan tactcaacct nccccccnt gnnaccanc cttctannng 660
ttccncccg ncctctggcc cntcaaan gcttncaacna cctgggtctg ccttcccccc 720
tnccctatct gnaccnncn tttgtctcan tnt 753

<210> 41
<211> 341
<212> DNA
<213> Homo sapien

<400> 41
actatatcca tcacaacaga catgtttcat cccatagact tcttgacata gcttcaaagt 60
agtgaacca tccttgattt atatacatat atgttctcag tattttggga gcctttccac 120
ttctttaaac cttgttcatt atgaacactg aaaataggaa tttgtgaaga gttaaaaagt 180

tatagcttgt	ttacgtagta	agtttttgaa	gtctacattc	aatccagaca	cttagttgag	240
tgttaaactg	tgatttttta	aaaatatcat	ttgagaatat	tctttcagag	gtattttcat	300
ttttactttt	tgattaattg	tgttttatat	attagggtag	t		341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 42						
acttactgaa	tttagttctg	tgctcttctt	tatttagtgt	tgtatcataa	atactttgat	60
gtttcaaaca	ttctaaataa	ataattttca	gtggcttcat	a		101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 43						
acatctttgt	tacagtctaa	gatgtgttct	taaatcacca	ttccttctctg	gtcctcaccc	60
tccagggtgg	tctcacactg	taattagagc	tattgaggag	tctttacagc	aaattaagat	120
tcagatgcct	tgctaagtct	agagttctag	agttatgttt	cagaaagtct	aagaaaccca	180
cctcttgaga	ggtcagtaaa	gaggacttaa	tatttcatat	ctacaaaatg	accacaggat	240
tggtacaga	acgagagtta	tcctggataa	ctcagagctg	agtacctgcc	cgggggccgc	300
tcgaa						305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(852)
 <223> n = A, T, C or G

<400> 44						
acataaatat	cagagaaaag	tagtctttga	aatattttacg	tccaggagtt	ctttgtttct	60
gattatttgg	tgtgtgtttt	ggtttgtgtc	caaagtattg	gcagcttcag	ttttcatttt	120
ctctccatcc	tcgggcattc	ttcccaaatt	tatataccag	tcttcgtcca	tccacacgct	180
ccagaatttc	tctttttag	taatatctca	tagctcggtc	gagcttttca	taggtcatgc	240
tgctgttgtt	cttcttttta	ccccatagct	gagccactgc	ctctgatttc	aagaacctga	300
agacgccctc	agatcggtct	tcccatttta	ttaatcctgg	gttcttgtct	gggttcaaga	360
ggatgtcgcg	gatgaattcc	cataagttag	tccctctcgg	gttgtgcttt	ttggtgtggc	420
acttggcagg	ggggtcttgc	tcctttttca	tatcagggtga	ctctgcaaca	ggaaggtagc	480
tggtggttgt	catggagatc	tgagcccggc	agaaagtgtt	gctgtccaac	aaatctactg	540
tgctaccata	gttgggtgtc	tataaatagt	tctngtcttt	ccagggtgtc	atgatggaag	600
gctcagtttg	ttcagtcttg	acaatgacat	tgtgtgtgga	ctggaacagg	tcactactgc	660
actggccggt	ccacttcaga	tgctgcaagt	tgctgtagag	gagntgcccc	gccgtccctg	720
ccgccccggg	gaactcctgc	aaactcatgc	tgcaaagggtg	ctcgccggtg	atgtcgaaact	780
cntgaaaagg	gatacaattg	gcatccagct	ggttggtgtc	caggaggtga	tggagccact	840
cccacacctg	gt					852

<210> 45
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 45						
acaacagacc	cttgctcgct	aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	120
gcctcgtttc	tggtctgggg	ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	180

tgaacgtgtc ggtggtgtct gaggaggtct gcagtaagct ctatgacccg ctgt 234

<210> 46
 <211> 590
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(590)
 <223> n = A,T,C or G

<400> 46
 acttttttatt taaatgttta taaggcagat ctatgagaat gatagaaaac atggtgtgta 60
 atttgatagc aatatttttg agattacaga gtttttagtaa ttaccaatta cacagttaaa 120
 aagaagataa tatattccaa gcanatacaa aatatctaata gaaagatcaa ggcaggaaaa 180
 tgantataac taattgacaa tggaaaatca attttaatgt gaattgcaca ttatccttta 240
 aaagctttca aaanaanaaa ttattgcagt ctanttaatt caaacagtgt taaatgggtat 300
 caggataaana aactgaaggg canaaaagaat taattttcac ttcatgtaac ncacccanatt 360
 ttacaatggc ttaaatgcan ggaaaaagca gtggaagtag ggaagtantc aaggtctttc 420
 tggctctctaa tctgccttac tctttgggtg tggctttgat cctctggaga cagctgccag 480
 ggctcctgtt atatccacaa tcccagcagc aagatgaagg gatgaaaaag gacacatgct 540
 gccttccttt gaggagactt catctcactg gccaacactc agtcacatgt 590

<210> 47
 <211> 774
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(774)
 <223> n = A,T,C or G

<400> 47
 acaagggggc ataatgaagg agtgggggana gatttttaaag aaggaaaaaa aacgaggccc 60
 tgaacagaat tttcctgnac aacgggggctt caaaataatt ttcttgggga gggtcaagac 120
 gcttcactgc ttgaaactta aatggatgtg ggacanaatt ttctgtaatg accctgaggg 180
 cattacagac gggactctgg gaggaaggat aaacagaaaag gggacaaaag ctaatcccaa 240
 aacatcaaag aaaggaagggt ggcgtcatac ctcccagcct acacagttct ccagggtctt 300
 cctcatccct ggaggacgac agtggaggaa caactgacca tgtcccagg ctcctgtgtg 360
 ctggctcctg gtcttcagcc cccagctctg gaagcccacc ctctgctgat cctgcgtggc 420
 ccacactcct tgaacacaca tcccaggtt atattcctgg acatggctga acctcctatt 480
 cctacttccg agatgccttg ctccctgcag cctgtcaaaa tcccactcac cctccaaacc 540
 acggcatggg aagcctttct gacttgcttg attactccag catcttgga caatccctga 600
 ttcccactc cttagaggca agataggggtg gtttaagagta gggctggacc acttgagcc 660
 aggctgctgg cttcaaattt tggctcattt acgagctatg ggaccttggg caagtnatct 720
 tcacttctat gggcntcatt ttgttctacc tgcaaaatgg gggataataa tagt 774

<210> 48
 <211> 124
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(124)
 <223> n = A,T,C or G

<400> 48
 canaaattga aattttataa aaaggcattt ttctcttata tccataaaat gatataattt 60
 ttgcaantat anaaatgtgt cataaattat aatgttcctt aattacagct caacgcaact 120

tggt

124

<210> 49
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 49
 gccgatgcta ctatatttatt gcaggaggtg ggggtgtttt tattattctc tcaacagctt 60
 tgtgggtaca ggtggtgtct gactgcatna aaaanttttt tacgggtgat tgcaaaaatt 120
 ttagggcacc catatcccaa gcantgt 147

<210> 50
 <211> 107
 <212> DNA
 <213> Homo sapien

<400> 50
 acattaaatt aataaaaagga ctgttggggt tctgctaaaa cacatggctt gatataattgc 60
 atgggttgag gttaggagga gttaggcata tgttttggga gaggggt 107

<210> 51
 <211> 204
 <212> DNA
 <213> Homo sapien

<400> 51
 gtcctaggaa gtctagggga cacacgactc tggggtcacg gggccgacac acttgcacgg 60
 cggaagaa aggcagagaa gtgacaccgt cagggggaaa tgacagaaag gaaaatcaag 120
 gccttgcaag gtcagaaagg ggactcaggg cttccaccac agccctgccc cacttggcca 180
 cctccctttt gggaccagca atgt 204

<210> 52
 <211> 491
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(491)
 <223> n = A,T,C or G

<400> 52
 acaaagataa catttatctt ataacaaaaa tttgatagtt ttaaagggtta gtatttgtta 60
 gggatatttc caaaagacta aagagataac tcaggtaaaa agttagaaat gtataaaaca 120
 ccatcagaca ggtttttaaa aaacaacata ttacaaaatt agacaatcat ccttaaaaaa 180
 aaaacttctt gtatcaattt cttttgttca aaatgactga cttaantatt tttaaatatt 240
 tcanaaacac ttcttcaaaa attttcaana tggtagcttt canatgtnc ctcagtccca 300
 atgttgctca gataaataaa tctcgtgaga acttaccacc caccacaagc tttctggggc 360
 atgcaacagt gtcttttctt tnccttttct tttttttttt ttacaggcac agaaactcat 420
 caattttatt tggataacaa aggtgtctca aatttatattg aaaaataaat ccaagttaat 480
 atcactcttg t 491

<210> 53
 <211> 484
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(484)
 <223> n = A,T,C or G

<400> 53
 acataattta gcagggctaa ttaccataag atgctattta ttaanaggtn tatgatctga 60
 gtattaacag ttgctgaagt ttggtatttt tatgcagcat tttctttttg ctttgataac 120
 actacagaac ccttaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct 180
 caatcaaadc tctacataac actatagtaa ttaaaacgtt aaaaaaaagt gttgaaatct 240
 gcactagtat anaccgctcc tgtcaggata anactgcttt ggaacagaaa gggaaaaanc 300
 agcttttgat ttcttttggtc tgatangagg aaaggctgaa ttaccttggt gcctctccct 360
 aatgattggc aggtcnggta aatnccaaaa catattccaa ctcaacactt cttttccnccg 420
 tanccttgant ctgtgtattc caggancagg cggatggaat gggccagccc ncggatgttc 480
 cant 484

<210> 54
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 54
 actaaacctc gtgcttgtga actccataca gaaaacgggtg ccatccctga acacggctgg 60
 ccactgggta tactgctgac aaccgcaaca acaaaaacac aaatccttgg cactggctag 120
 tctatgtcct ctcaagtgcc tttttgtttg t 151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctccgggtg gttcccggcg cccccacgg tccccagAAC ggacactttc 60
 gccctccagt ggatactcga gccaaagtgg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggcggatgtg cggttggttat atacaaatat gtcattttat gtaagggact tgagtataact 60
 tggatttttg gtatctgtgg gttgggggga cgggccagga accaatatccc catggataacc 120
 aagggacaac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggcgc 60
 gactggggagc tgagcccttc cctttgcgcc tgccctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncat gcagggt 147

<210> 58

<211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 58
 acagggatat aggtttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60
 tgattacata catttatcct ttaaaaaaga tgtaaatcct aatttttatg ccatctatta 120
 atttaccat gagttacctt gtaaatagaga agtcatgata gcactgaatt ttaactagtt 180
 ttgacttcta agtttggt 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59
 acaacaaatg ggttgtagg aagtcttatac agcaaaactg gtgatggcta ctgaaaagat 60
 ccattgaaaa ttatcattaa tgattttaaa tgacaagtta tcaaaaactc actcaatttt 120
 cacctgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa 180
 tacagtcaat aaatgacaaa gccagggcct acaggtgggt tccagacttt ccagacccag 240
 cagaaggaat ctattttatc acatggatct ccgtctgtgc tcaaaatacc taatgatatt 300
 tttcgtcttt attggacttc tttgaagagt 330

<210> 60
 <211> 175
 <212> DNA
 <213> Homo sapien

<400> 60
 accgtgggtg ccttctacat tcctgacggc tccttcacca acatctgggt ctacttcggc 60
 gtcgtgggtc ccttcctctt catcctcatc cagctgggtc tgctcatcga ctttgccgac 120
 tcctggaacc agcgggtggt gggcaaggcc gaggagtgcg attcccgtgc ctggt 175

<210> 61
 <211> 154
 <212> DNA
 <213> Homo sapien

<400> 61
 accccacttt tcctcctgtg agcagtctgg acttctcact gctacatgat gagggtagt 60
 ggttggtgct cttcaacagt atcctcccct ttccggatct gctgagccgg acagcagtgc 120
 tggactgcac agccccgggg ctccacattg ctgt 154

<210> 62
 <211> 30
 <212> DNA
 <213> Homo sapien

<400> 62
 cgctcgagcc ctatagttag tcgtattaga 30

<210> 63
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 63

acaagtcatt tcagcaccct ttgctcttca aaactgacca tcttttatat ttaatgcttc 60
ctgtatgaat aaaaatgggt atgtcaagt 89

<210> 64
<211> 97
<212> DNA
<213> Homo sapien

<400> 64
accggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa gggtctgcag 60
aatcagtga tccaggattg gtccttgat ctgggt 97

<210> 65
<211> 377
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(377)
<223> n = A,T,C or G

<400> 65
acaacaanaa ntcccttctt taggccactg atggaaacct ggaacccct tttgatggca 60
gcatggcgtc ctaggccttg acacagcggc tggggtttgg gctntcccaa accgcacacc 120
ccaaccctgg tctaccaca nttctggcta tgggctgtct ctgccactga acatcagggt 180
tcggtcataa natgaaatcc caanggggac agaggctcagt agaggaagct caatgagaaa 240
gggtgctgtt gctcagccag aaaacagctg cctggcattc gccgctgaac tatgaacccg 300
tgggggtgaa ctaccccan gaggaatcat gcctgggcga tgcaanggtg ccaacaggag 360
gggcgggagg agcatgt 377

<210> 66
<211> 305
<212> DNA
<213> Homo sapien

<400> 66
acgcctttcc ctcagaattc agggaagaga ctgtgcgctg ccttcctccg ttgttgcggtg 60
agaaccctg tgccccttcc caccatatcc accctcgctc catctttgaa ctcaaacacg 120
aggaaactaac tgcaccctgg tcctctcccc agtcccagct tcaccctcca tccctcaact 180
tcctccactc taagggatat caacactgcc cagcacaggg gccctgaatt tatgtggttt 240
ttatatattt ttaataaga tgcactttat gtcatttttt aataaagtct gaagaattac 300
tggtt 305

<210> 67
<211> 385
<212> DNA
<213> Homo sapien

<400> 67
actacacaca ctccacttgc ccttggtgaga cactttgtcc cagcacttta ggaatgctga 60
ggtcggacca gccacatctc atgtgcaaga ttgccagca gacatcaggt ctgagagttc 120
cccttttaaa aaaggggact tgcttaaaaa agaagtctag ccacgattgt gtagagcagc 180
tgtgtgtgc tggagattca cttttgagag agttctcctc tgagacctga tctttagagg 240
ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300
cctctccag ggccccagcc tggccacacc tgcttacagg gcactctcag atgccatac 360
catagtttct gtgctagtgg accgt 385

<210> 68
<211> 73
<212> DNA
<213> Homo sapien

<400> 68
 acttaaccag atatattttt accccagatg gggatattct ttgtaaaaaa tgaaaataaa 60
 gtttttttaa tgg 73

<210> 69
 <211> 536
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(536)
 <223> n = A,T,C or G

<400> 69
 actagtccag tgtgggtggaa ttccattgtg ttggggggctc tcaccctcct ctctgcagc 60
 tccagctttg tgctctgcct ctgaggagac catggcccag catctgagta ccctgctgct 120
 cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180
 cccgggtggc atctataacg cagacctcaa tgatgagtgg gtacagcgtg cccttcactt 240
 cgccatcagc gagtataaca aggccaccaa agatgactac tacagacgtc cgctgcgggt 300
 actaagagcc aggcaacaga ccgttggggg ggtgaattac ttcttcgacg tagaggtggg 360
 ccgaaccata tgtaccaagt cccagcccaa cttggacacc tgtgccttcc atgaacagcc 420
 agaactgcag aagaaacagt tgtgctcttt cgagatctac gaagttccct ggggagaaca 480
 gaangtcctt gggtgaaatc caggtgtcaa gaaatcctan ggatctgttg ccaggc 536

<210> 70
 <211> 477
 <212> DNA
 <213> Homo sapien

<400> 70
 atgacccta acagggggccc tctcagccct cctaatagacc tccggcctag ccatgtgatt 60
 tcacttccac tccataacgc tccatcactt aggcctacta accaaccacac taaccatata 120
 ccaatgatgg cgcgatgtaa cagagaaaag cacataccaa ggccaccaca caccacctgt 180
 ccaaaaaggc cttcgatagc ggataatcct atttattacc tcagaagtgt ttttcttcgc 240
 agggattttt ctgagccttt taccactcca gcttagcccc taccctccaa ctaggagggc 300
 actggccccc aacaggcatc acccogctaa atcccctaga agtcccactc ctaaacacat 360
 ccgtattact cgcacagga gtatcaatca cctgagctca ccatagtcta atagaaaaca 420
 accgaaacca aattattcaa agcactgctt attacaattt tactgggtct ctatttt 477

<210> 71
 <211> 533
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(533)
 <223> n = A,T,C or G

<400> 71
 agagctatag gtacagtgtg atctcagctt tgcaaacaca ttttctacat agatagtact 60
 aggtattaat agatatgtaa agaaagaaat cacaccatta ataatggtaa gattgggtta 120
 tgtgatttta gtggattttt tggcaccctt atatatgttt tccaaacttt cagcagtgat 180
 attattttcca taacttaaaa agtgagtgtt aaaaagaaaa tctccagcaa gcatctcatt 240
 taaataaaag tttgtcatct ttaaaaatac agcaatatgt gactttttta aaaagctgtc 300
 aaataggtgt gaccctacta ataattatta gaaatacatt taaaaacatc gagtacctca 360
 agtcagtttg ccttgaaaaa tatcaaatat aactcttaga gaaatgtaca taaaagaatg 420
 cttcgtaatt ttggagtang aggttccctc ctcaattttg tattttttaa aagtacatgg 480
 taaaaaaaaa aattcacaac agtatataag gctgtaaaaa gaagaattct gcc 533

<210> 72

<211> 511
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 72
 tattacggaa aaacacacca cataattcaa ctancaaaga anactgcttc agggcggtgta 60
 aaatgaaagg cttccaggca gttatctgat taaagaacac taaaagaggg acaaggctaa 120
 aagccgcagg atgtctacac tatancaggc gctatttggg ttggctggag gagctgtgga 180
 aaacatggan agattgggtgc tgganatcgc cgtggctatt cctcattggt attacanagt 240
 gaggttctct gtgtgcccac tggtttgaaa accgttctnc aataatgata gaatagtaca 300
 cacatgagaa ctgaaatggc ccaaaccagg aaagaaagcc caactagatc ctcagaanac 360
 gcttctaggg acaataaccg atgaagaaaa gatggcctcc ttgtgcccc gtctgttatg 420
 atttctctcc attgcagcna naaaccgggt cttctaagca aacncagggt atgatggcna 480
 aaatacaccc cctcttgaag naccnggagg a 511

<210> 73
 <211> 499
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 73
 cagtgccagc actggtgccca gtaccagtag caataacagt gccagtgccca gtgccagcac 60
 cagtgggtggc ttccagtgtg gtgccagcct gaccgccact ctcacatttg ggctcttcgc 120
 tggccttggg ggagctgggt ccagcaccag tggcagctct ggtgcctgtg gtttctccta 180
 caagtggagt tttagatatt gttaatcctg ccagtccttc tcttcaagcc aggggtgcac 240
 ctcagaaacc tactcaacac agcactctag gcagccacta tcaatcaatt gaagttgaca 300
 ctctgcatta aatctatttg ccatttctga aaaaaaaaaa aaaaaaaggg cggccgctcg 360
 antctagagg gcccgtttaa acccgctgat cagcctcgac tgtgccttct anttgccagc 420
 catctgttgt ttgccccctc cccgntgcct tccttgaccc tggaaagtgc cactcccat 480
 gtcctttcct aantaaaat 499

<210> 74
 <211> 537
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 74
 tttcatagga gaacacactg aggagatact tgaagaattt ggattcagcc gcgaagagat 60
 ttatcagctt aactcagata aaatcattga aagtaataag gtaaaagcta gtctctaact 120
 tccaggccca cggctcaagt gaatttgaat actgcattta cagtgtagag taacacataa 180
 cattgtatgc atggaaacat ggaggaacag tattacagtg tcctaccact ctaatcaaga 240
 aaagaattac agactctgat tctacagtga tgattgaatt ctaaaaatgg taatcattag 300
 ggcttttgat ttataanact ttgggtactt atactaaatt atggtagtta tactgccttc 360
 cagtttgctt gatataattg ttgatattaa gattcttgac ttatattttg aatgggttct 420
 actgaaaaan gaatgatata ttcttgaaga catcgatata catttattta cactcttgat 480
 tctacaatgt agaaaatgaa ggaaatgcc caaattgtat ggtgataaaa gtccccgt 537

<210> 75
 <211> 467
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(467)
 <223> n = A,T,C or G

<400> 75
 caaanacaat tgttcaaaag atgcaaataa tacactactg ctgcagctca caaacacctc 60
 tgcataattac acgtacctcc tctgtctcct caagtagtgt ggtctatatt gccatcatca 120
 cctgtctgtc gcttagaaga acggctttct gctgcaangg agagaaatca taacagacgg 180
 tggcacaagg aggccatctt ttctctatcg gttattgtcc ctagaagcgt cttctgagga 240
 tctagtggg ctttctttct gggtttgggc catttcantt ctcattgtgt tactattcta 300
 tcattattgt ataacgggtt tcaaaccngt gggcacncag agaacctcac tctgtaataa 360
 caatgaggaa tagccacggg gatctccagc accaaatctc tccatgttnt tccagagctc 420
 ctccagccaa cccaaatagc cgctgctatn gtgtagaaca tccctgn 467

<210> 76
 <211> 400
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(400)
 <223> n = A,T,C or G

<400> 76
 aagctgacag cattcgggccc gagatgtctc gctccgtggc cttagctgtg ctgcgcgtac 60
 tctctcttcc tggcctggag gctatccagc gtactccaaa gattcagggt tactcacgtc 120
 atccagcaga gaatggaaa tcaaatttcc tgaattgcta tgtgtctggg tttcatccat 180
 ccgacattga agttgactta ctgaagaatg gagagagaat tgaaaaagt gagcattcag 240
 acttgtcttt cagcaaggac tgggtctttct atctcttgta ctacactgaa ttcaccccca 300
 ctgaaaaaga tgagtatgcc tgccgtgtga accatgtgac tttgtcacag cccaagatng 360
 tttagtggga tcganacatg taagcagcan catgggaggt 400

<210> 77
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 77
 ctggagtgcc ttggtgtttc aagcccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc cggcggggga tgcgaggctc ggagcaccct tgcccggctg tgattgctgc 120
 caggcactgt tcatctcagc ttttctgtcc ctttgtctcc ggcaagcgt tctgctgaaa 180
 gttcatatct ggagcctgat gtcttaacga ataaagggtc catgctccac ccgaaaaaaa 240
 aaaaaaaa 248

<210> 78
 <211> 201
 <212> DNA
 <213> Homo sapien

<400> 78
 actagtccag tgtggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca 60
 tcacccagac cccgccctgc cctgccccca cgctgctgct aacgacagta tgatgcttac 120
 tctgtactc ggaaactatt tttatgtaat taatgtatgc tttcttgttt ataaatgcct 180
 gatttaaaaa aaaaaaaaaa a 201

<210> 79
 <211> 552
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(552)
 <223> n = A,T,C or G

<400> 79
 tccttttgtt aggttttttga gacaacccta gacctaaact gtgtcacaga cttctgaatg 60
 tttaggcagt gctagtaatt tcctcgtaat gattctgtta ttactttcct attctttatt 120
 cctctttctt ctgaagatta atgaagttga aaattgaggt ggataaatac aaaaaggtag 180
 tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcaaaatt 240
 atgcaagtta gtaattactc agggttaact aaattacttt aatatgctgt tgaacctact 300
 ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga 360
 taatattcta tgttctaaaaa gttgggctat acataaanta tnaagaaata tggaatttta 420
 ttcccaggaa tatggggttc atttatgaat antacccggg anagaagttt tgantnaaac 480
 cngttttggt taatacgta atatgtcctn aatnaacaag gcntgactta tttccaaaaa 540
 aaaaaaaaaa aa 552

<210> 80
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

<400> 80
 acagggattt gagatgctaa ggccccagag atcgtttgat ccaaccctct tatttttcaga 60
 ggggaaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct 120
 cacacagact cccgagtagc tgggactaca ggcacacagt cactgaagca ggccctgttt 180
 gcaattcacg ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtacta 240
 aggttaaaact ttcccaccca gaaaaggcaa cttagataaa atcttagagt actttcatac 300
 tcttctaagt cctcttccag cctcactttg agtcctcctt ggggggttgat aggaantntc 360
 tcttggttt ctcaataaaa tctctatcca tctcatgttt aatttggtac gcntaaaaat 420
 gctgaaaaaa ttaaatgtt ctggtttcnc tttaaaaaaa aaaaaaaaaa aaaaaa 476

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(232)
 <223> n = A,T,C or G

<400> 81
 tttttttttg tatgccntcn ctgtggngtt attgttgctg ccaccctgga ggagcccagt 60
 ttcttctgta tctttctttt ctgggggagc ttcttggtc tgccctcca tcccagcct 120
 ctcatcccca tcttgcaatt ttgctagggg tggaggcgct ttcttggtag cccctcagag 180
 actcagtcag cggaataag tcctaggggt ggggggtgtg gcaagccggc ct 232

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 82
 aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactgggtgcc 60
 agtaccagta ccaataacat gccagtgccg gtgccagcac cagtgggtggc ttcagtgtctg 120
 gtgccagcct gaccgccact ctcacatttg ggctcttcgc tggccttggg ggagctgggtg 180
 ccagcaccag tggcagctct ggtgcctgtg gtttctccta caagtgagat tttagatatt 240
 gttaatcctg ccagtctttc tcttcaagcc aggggtgcac ctcagaaacc tactcaacac 300
 agcactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360
 ccatttcaaa aaaaaaaaaa aaa 383

<210> 83
 <211> 494
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(494)
 <223> n = A,T,C or G

<400> 83
 accgaattgg gaccgtggc ttataagcga tcatgtcctc cagtattacc tcaacgagca 60
 ggagatcga gtctatacgc tgaagaaatt tgacccgatg ggacaacaga cctgtctcagc 120
 ccatectgct cgggttctccc cagatgacaa atactctcga caccgaatca ccatcaagaa 180
 acgtttcaag gtgtcatga cccagcaacc gcgcctgtgc ctctgagggt ccttaaactg 240
 atgtcttttc tgccacctgt taccctctcg agactccgta accaaactct tcggactgtg 300
 agccctgatg ccttttttggc agccatactc tttggcntcc agtctctcgt ggcgattgat 360
 tatgcttgtg tgaggcaatc atggtggcat caccatnaa gggaacacat ttganttttt 420
 tttcncatat tttaaattac naccagaata nttcagaata aatgaattga aaaactctta 480
 aaaaaaaaaa aaaa 494

<210> 84
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A,T,C or G

<400> 84
 gctggtagcc tatggcgtgg ccacggangg gctcctgagg cacgggacag tgacttccca 60
 agtatcctgc gccgcgtctt ctaccgtccc tacctgcaga tcttcgggca gattccccag 120
 gaggacatgg acgtggccct catggagcac agcaactgct cgtcggagcc cggcttcttg 180
 gcacaccctc ctggggccca ggcgggcacc tgcgtctccc agtatgccaa ctggctgggtg 240
 gtgctgtctc tcgtcatctt cctgctcgtg gccaacatcc tgctggtcac ttgctcattg 300
 ccatgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
 agcgttnccg cctcatccg 380

<210> 85
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(481)

<223> n = A,T,C or G

<400> 85

gagttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgccacca	cctcctgcat	cttggggcgg	ctaatatcca	120
ggaaactctc	aatcaagtca	ccgtcnatna	aacctgtggc	tggttctgtc	ttccgctcgg	180
tgtgaaagga	tctccagaag	gagtgctcga	tcttccccac	acttttgatg	actttattga	240
gtcgattctg	catgtccagc	aggaggttgt	accagctctc	tgacagtgag	gtcaccagcc	300
ctatcatgcc	nttgaacgtg	ccgaagaaca	ccgagccttg	tgtggggggg	gnagtctcac	360
ccagattctg	cattaccaga	nagccgtggc	aaaaganatt	gacaactcgc	ccaggngaa	420
aaagaacacc	tcctggaagt	gctngccgct	cctcgtccnt	tgggtggnngc	gcntnecctt	480
t						481

<210> 86

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

<400> 86

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgctg	agaattcatt	60
acttggaaaa	gcaacttnaa	gcctggacac	tgggtattaaa	attcacaata	tgcaacactt	120
taaacagtg	gtcaatctgc	tcccttactt	tgtcatcacc	agtctgggaa	taagggtatg	180
ccctattcac	acctgttaaa	agggcgctaa	gcatttttga	ttcaacatct	ttttttttga	240
cacaagtccg	aaaaaagcaa	aagtaaacag	ttnttaattt	gttagccaat	tcactttctt	300
catgggacag	agccatttga	tttaaaaagc	aaattgcata	atattgagct	ttgggagctg	360
atatntgagc	ggaagantag	cctttctact	tcaccagaca	caactccttt	catattggga	420
tgttnacnaa	agttatgtct	cttacagatg	ggatgctttt	gtggcaattc	tg	472

<210> 87

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(413)

<223> n = A,T,C or G

<400> 87

agaaaccagt	atctctnaaa	acaacctctc	ataccttggtg	gacctaat	tgtgtgcgtg	60
tgtgtgtgcg	cgcatattat	atagacaggc	acatcttttt	tacttttgta	aaagcttatg	120
cctctttggg	atctatatct	gtgaaagttt	taatgatctg	ccataatgtc	ttggggacct	180
ttgtcttctg	tgtaaatggg	actagagaaa	acacctatnt	tatgagtcaa	tctagttngt	240
tttattcgac	atgaaggaaa	tttccagatn	acaacactna	caaactctcc	cttgactagg	300
ggggacaaa	aaaagcnaaa	ctgaacatna	gaaacaattn	cctgggtgaga	aattncataa	360
acagaaattg	ggtngtatat	tgaaanang	catcattnaa	acgttttttt	ttt	413

<210> 88

<211> 448

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(448)

<223> n = A,T,C or G

```

<400> 88
cgccagcggt cctctctatc tagctccagc ctctcgctg cccactccc cgcgtcccgc 60
gtcctagccn accatggccg ggcccctgcg cgcccgcgtg ctctgctgg ccatcctggc 120
cgtggccctg gccgtgagcc ccgcgggccg ctccagtcgc ggcaagccgc cgcgcctggg 180
gggaggccca tggacccgc gtggaagaag aaggtgtgcg gcgtgactg gactttgccg 240
tcggcnanta caacaaacc gcaacnactt ttaccnagcn cgcgtgcag gttgtgccg 300
cccaancaaa ttgttactng gggtaantaa ttcttggaag ttgaacctg gccaaacnng 360
tttaccagaa ccnagccaat tngaacaatt ncccctccat aacagcccct tttaaaaagg 420
gaancantcc tgntcttttc caaatTTT 448

```

```

<210> 89
<211> 463
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(463)
<223> n = A,T,C or G

```

```

<400> 89
gaattttgtg cactggccac tgtgatggaa ccattgggcc aggatgcttt gagtttatca 60
gtagtgttgc tgccaaagtt ggtgttgtaa catgagtatg taaaatgtca aaaaatttagc 120
agagggtctag gtctgcatat cagcagacag ttgtgccgtg tattttgtag ccttgaagtt 180
ctcagtgcac agttntttct gatgcgaagt tctnattcca gtgttttagt cctttgcac 240
tttnatgtn agacttgcc tctnnaaatt gcttttgtnt tctgcaggta ctatctgtg 300
tttaacaaaa tagaannact tctctgcttn gaanatttga atatcttaca tctnaaaatn 360
aattctctcc ccatannaaa acccangccc ttggganaat ttgaaaaang gntccttcnn 420
aattcnana anttcagtn tcatacaaca naacngganc ccc 463

```

```

<210> 90
<211> 400
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(400)
<223> n = A,T,C or G

```

```

<400> 90
agggattgaa ggtctntnt actgtcggac tgttcanca ccaactctac aagttgctgt 60
cttcactca ctgtctgtaa gcntnttaac ccagactgta tcttcataaa tagaacaat 120
tcttcaccag tcacatcttc taggaccttt ttggattcag ttagtataag ctcttcact 180
tcctttgtta agacttcac tggtaaagtc ttaagtttg tagaaaggaa ttaattgct 240
cgttctctaa caatgtcct tccttgaagt atttggtga acaaccacc tnaagtcct 300
ttgtgcatcc attttaaata tacttaatag ggcattggt cactaggtta aattctgcaa 360
gagtcactgt tctgcaaaag ttgcgttagt atatctgcc 400

```

```

<210> 91
<211> 480
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(480)
<223> n = A,T,C or G

```

```

<400> 91
gagctcggat ccaataatct ttgtctgagg gcagcacaca tatncagtgc catggnaact 60

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ggctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gactaccgtg	tgccagtgtc	gggtattctc	acacacctcc	nncgctctt	180
tgtggaaaaa	ctggcacttg	nttggaacta	gcaagacatc	acttacaaat	tcacccacga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcatgtgct	tttgtccctc	cggcaccagt	300
tgtcaatact	aaccgcgtgg	tttgccctca	tcacatttgt	gatctgtagc	tctggataca	360
tctcctgaca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	ggcgctgtt	420
ngatcagggt	cccatttccc	agtcggaatg	ttcacatggc	atatnttact	tcccacaaaa	480

<210> 92
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 92	
atacagccca	natccacca
gggtcccgtg	tagccccagc
cccacgcagg	cagcagcggg
taantgcagg	aagaggctga
tgacgcgaaa	ctcctcgatg
gaaccttccg	cctgttctct
accagcggac	aaacggcggt
aggaacggcn	ccagcgtgtc
cgaagatgcg	cttgttgact
gactctccac	ctgctggaag
gccgggtcaat	gaactccact
gtccaccagg	atgcccgaact
ggaagcgaat	gangcccagg
ggcgtcacct	ccgctnacac
gcagctgctg	tgcccantgt
acctcacgga	gtcgcgctcc
tcggtgaanc	ctccgcgggt
aatggcg	
60	
120	
180	
240	
300	
360	
420	
477	

<210> 93
 <211> 377
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(377)
 <223> n = A,T,C or G

<400> 93	
gaacggctgg	accttgccctc
agtcagagca	gccccagacc
cgcctcaatg	cagaaccant
tgattttact	tggaatttct
caacaacaaa	ataacatggt
aagaaaatat	tactgtttaca
ataaatatat	tattaaa
gcattgtgct	gctggcagga
gctgccgccc	gaagctaagc
ctgtgtttag	agttaagagt
tagcttttcc	caatgctaata
gttggtataaa	agtangtgat
gcaanttctg	tattttattgg
tincttgga	
60	
120	
180	
240	
300	
360	
377	

<210> 94
 <211> 495
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(495)
 <223> n = A,T,C or G

<400> 94	
ccctttgagg	ggttagggtc
cgagctgang	cagatttccc
ccaaggaaa	accaccttct
gaaggcccca	ttccgggggt
cagttcccag	tggaagaaac
acagtgaccc	cagagccctg
ggggacatgg	gctggagggc
gttccccgag	gaggaaggga
aggccaggag	aantgcgtgc
ggctatagtc	tctgacccct
aggacctaga	ggcaccaagg
aggggctctg	tgtgcccccc
60	
120	
180	
240	

acgaggaana	ggccctgant	cctgggatca	nacaccccctt	cacgtgtatc	cccacacaaa	300
tgcaagctca	ccaaggtccc	ctctcagtc	cttccctaca	ccctgaacgg	ncactggccc	360
acacccaccc	agancancca	cccgccatgg	ggaatgtnt	caaggaatcg	cngggcaacg	420
tggactctng	tcccnaagg	gggcagaatc	tccaatagan	gganngaacc	cttgctnana	480
aaaaaaaaana	aaaaa					495

<210> 95

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

<400> 95

ggttacttgg	tttcattgcc	accacttagt	ggatgtcatt	tagaaccatt	ttgtctgctc	60
cctctggaag	ccttgcgcag	agcggacttt	gtaattgttg	gagaataact	gctgaatttt	120
tagctgtttt	gagttgattc	gcaccactgc	accacaactc	aatatgaaaa	ctatttnact	180
tatttattat	cttgtgaaaa	gtatacaatg	aaaattttgt	tcatactgta	tttatcaagt	240
atgatgaaaa	gcaatagata	tatattcttt	tattatgttn	aattatgatt	gccattatta	300
atcggcaaaa	tgtggagtgt	atgttctttt	cacagtaata	tatgcctttt	gtaacttcac	360
ttggttattt	tattgtaaat	gaattacaaa	attcttaatt	taagaaaatg	gtangttata	420
tttanttcan	taatttcttt	ccttgtttac	gttaattttg	aaaagaatgc	at	472

<210> 96

<211> 476

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(476)

<223> n = A,T,C or G

<400> 96

ctgaagcatt	tcttcaaact	tntctacttt	tgtcattgat	acctgtagta	agttgacaat	60
gtggtgaaat	ttcaaaaatta	tatgtaactt	ctactagtgt	tactttctcc	cccaagtcct	120
ttttaactca	tgattttttac	acacacaatc	cagaactttat	tatatagcct	ctaagtcttt	180
attcttcaca	gtagatgatg	aaagagtcct	ccagtgtctt	gngcanaatg	ttctagntat	240
agctggatac	atacngtggg	agttctataa	actcatacct	cagtgggact	naaccaaaat	300
tgtgttagtc	tcaattccta	ccacactgag	ggagcctccc	aaatcactat	attcttatct	360
gcaggctactc	ctccagaaaa	acngacaggg	caggcttgca	tgaaaaagtn	acatctgcgt	420
tacaaagtct	atcttcctca	nangtctgt	aaggaacaat	ttaatcttct	agcttt	476

<210> 97

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 97

actctttcta	atgctgatat	gatcttgagt	ataagaatgc	atatgtcact	agaatggata	60
aaataatgct	gcaaaacttaa	tgttcttatg	caaaatggaa	cgctaataaa	acacagctta	120
caatcgcaaa	tcaaaaactca	caagtgtctca	tctgtttag	atttagtgta	ataagactta	180
gattgtgctc	cttcgggat	gattgtttct	canatcttgg	gcaatnttcc	ttagtcaaat	240
caggctacta	gaattctgtt	attggatatn	tgagagcatg	aaatttttaa	naatacactt	300

gtgattatna	aattaatcac	aaattttcact	tatacctgct	atcagcagct	agaaaaacat	360
ntnnttttta	natcaaagta	ttttgtgttt	ggaantgttn	aaatgaaatc	tgaatgtggg	420
ttcnatctta	ttttttcccn	gacnactant	tnctttttta	gggnctattc	tganccatc	479

<210> 98
 <211> 461
 <212> DNA
 <213> Homo sapien

<400> 98						
agtgacttgt	cctccaacaa	aacccttga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgctagtcc	tgtcatctat	tcgctactaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaatctatt	cctacttgta	cggactttga	180
agtgattcag	tttcctctac	ggatgagaga	ctggctcaag	aatactctca	tgcagcttta	240
tgaagccact	ctgaacacgc	tggttatcta	gatgagaaca	gagaaataaa	gtcagaaaat	300
ttacctggag	aaaagaggct	ttggctgggg	accatcccat	tgaaccttct	cttaaggact	360
ttaagaaaaa	ctaccacatg	ttgtgtatcc	tggtgccggc	cgtttatgaa	ctgaccaccc	420
tttgaataaa	tcttgacgct	cctgaacttg	ctcctctgcg	a		461

<210> 99
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 99						
gtggccgcgc	gcaggtgttt	cctcgtaccg	cagggccccc	tcctttcccc	aggcgtccct	60
cggcgctct	gcgggcccga	ggaggagcgg	ctggcgggtg	gggggagtgt	gacccaccct	120
cggtgagaaa	agccttctct	agcgatctga	gaggcgtgcc	ttgggggtac	c	171

<210> 100
 <211> 269
 <212> DNA
 <213> Homo sapien

<400> 100						
cggccgcaag	tgcaactcca	gctggggccg	tgccgacgaa	gattctgcc	gcagttggtc	60
cgactgcgac	gacggcgccg	gcgacagtcg	caggtgcagc	gcgggcgcct	gggtcttgc	120
aaggctgagc	tgacgccgca	gaggtcgtgt	cacgtccac	gaccttgacg	ccgtcgggga	180
cagccggaac	agagcccggg	gaagcgggag	gcctcgggga	gcccctcggg	aagggcggcc	240
cgagagatac	gcaggtgcag	gtggccgcc				269

<210> 101
 <211> 405
 <212> DNA
 <213> Homo sapien

<400> 101						
tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaagt	ttattttgca	60
gctagcaagg	taacagggtg	gggcatggtt	acatgttcag	gtcaacttcc	tttgtcgtgg	120
ttgattggtt	tgtctttatg	ggggcggggt	ggggtagggg	aaacgaagca	aataacatgg	180
agtgggtgca	ccctccctgt	agaacctggt	tacaaagctt	ggggcagttc	acctggtctg	240
tgaccgtcat	tttcttgaca	tcaatgttat	tagaagtcag	gatattcttt	agagagtcca	300
ctgttctgga	gggagattag	ggtttcttgc	caaatccaac	aaaatccact	gaaaaagtgt	360
gatgatcagt	acgaataccg	aggcatattc	tcatatcggt	ggcca		405

<210> 102
 <211> 470
 <212> DNA
 <213> Homo sapien

<400> 102						
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60

ggcacttaat	ccatttttat	ttcaaaatgt	ctacaaattt	aatcccatta	tacgggtattt	120
tcaaaatcta	aattattcaa	attagccaaa	tccttaccaa	ataataccca	aaaatcaaaa	180
atatacttct	ttcagcaaac	ttgttacata	aattaaaaaa	atatatacgg	ctgggtgtttt	240
caaagtacaa	ttatcttaac	actgcaaaaca	ttttaaggaa	ctaaaataaa	aaaaaacact	300
ccgcaaaggt	taaagggaac	aacaaattct	tttacaacac	cattataaaa	atcatatctc	360
aaatcttagg	ggaatatata	cttcacacgg	gatcttaact	tttactcact	ttgttttattt	420
ttttaaacca	ttgtttgggc	ccaacacaat	ggaatccccc	ctggactagt		470

<210> 103

<211> 581

<212> DNA

<213> Homo sapien

<400> 103

tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgccataaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaaat	tatctaattc	ttccattttt	tccttattcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaca	ggaagagaaa	tggcacacaa	aacaaacatt	ttatattcat	atttctacct	420
acgttaataa	aatagcattt	tgtgaagcca	gctcaaaaga	aggcttagat	ccttttatgt	480
ccatttttagt	cactaaacga	tatcaaaagt	ccagaatgca	aaaggtttgt	gaacatttat	540
tcaaaagcta	atataagata	tttcacatac	tcactcttct	g		581

<210> 104

<211> 578

<212> DNA

<213> Homo sapien

<400> 104

tttttttttt	tttttttttt	tttttctctt	cttttttttt	gaaatgagga	tcgagttttt	60
cactctctag	atagggcatg	aagaaaactc	atctttccag	ctttaaaata	acaatcaaat	120
ctcttatgct	atatcatatt	ttaagttaaa	ctaagtgtgc	actggcttat	cttctcctga	180
aggaatctg	ttcattcttc	tcattcatat	agttatatca	agtactacct	tgcatattga	240
gaggtttttc	ttctctattt	acacatatat	ttccatgtga	atttgatatca	aacctttatt	300
ttcatgcaaa	ctagaaaata	atgtttcttt	tgcataagag	aagagaacaa	tatagcatta	360
caaaactgct	caaattgttt	gttaagttat	ccattataat	tagttggcag	gagctaatac	420
aaatcacatt	tacgacagca	ataataaaac	tgaagtacca	gttaaatatc	caaaataatt	480
aaaggaacat	ttttagcctg	ggtataatta	gctaattcac	tttacaagca	tttattagaa	540
tgaattcaca	tggtattatt	cctagcccaa	cacaatgg			578

<210> 105

<211> 538

<212> DNA

<213> Homo sapien

<400> 105

tttttttttt	tttttcagta	ataatcagaa	caatatttat	ttttatatatt	aaaattcata	60
gaaaagtgcc	ttacatttaa	taaaagtttg	tttctcaaag	tgatcagagg	aattagatat	120
gtcttgaaca	ccaatattaa	tttgaggaaa	atacaccaaa	atacattaag	taaattattt	180
aagatcatag	agcttgtaag	tgaaaagata	aaatttgacc	tcagaaactc	tgagcattaa	240
aaatccacta	ttagcaaata	aattactatg	gacttcttgc	tttaattttg	tgatgaatat	300
ggggtgtcac	tggtaaaacca	acacattctg	aaggatacat	tacttagtga	tagattctta	360
tgtacttttg	taatacgtgg	atatgagttg	acaagtttct	ctttcttcaa	tcttttaagg	420
ggcgagaaat	gaggaagaaa	agaaaaggat	tacgcatact	gttctttcta	tggaaggatt	480
agatagtgtt	cctttgccaa	tattaaaaaa	ataataatgt	ttactactag	tgaaaccc	538

<210> 106

<211> 473

<212> DNA

<213> Homo sapien

<400> 106

tttttttttt	tttttttagtc	aagttttctat	ttttattata	attaaagtct	tggtcatttc	60
attttattagc	tctgcaactt	acatatattaa	attaaagaaa	cgtttttagac	aactgtacaa	120
tttataaatg	taaggtgcca	ttattgagta	atatattcct	ccaagagtgg	atgtgtccct	180
tctcccacca	actaatgaac	agcaacatta	gtttaatttt	attagtagat	atacactgct	240
gcaaacgcta	attctcttct	ccatcccat	gtgatattgt	gtatatgtgt	gagttggtag	300
aatgcatcac	aatctacaat	caacagcaag	atgaagctag	gctgggcttt	cggtgaaaat	360
agactgtgtc	tgtctgaatc	aaatgatctg	acctatcctc	ggtggcaaga	actcttcgaa	420
ccgcttctct	aaaggcgctg	ccacatttgt	ggctctttgc	acttgtttca	aaa	473

<210> 107

<211> 1621

<212> DNA

<213> Homo sapien

<400> 107

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cttccgcccgc	ggtgtcatgg	agaaactcca	gctgggccc	gagattctgc	agcgggaaaa	300
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<210> 108

<211> 382

<212> PRT

<213> Homo sapien

<400> 108

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			20					25					30		
Arg	Val	Asp	Arg	Pro	Gly	Ser	Arg	Tyr	Asp	Val	Ser	Arg	Leu	Gly	Arg
			35					40					45		
Gly	Lys	Arg	Ser	Leu	Val	Leu	Asp	Leu	Lys	Gln	Pro	Arg	Gly	Ala	Ala
			50					55					60		
Val	Leu	Arg	Arg	Leu	Cys	Lys	Arg	Ser	Asp	Val	Leu	Leu	Glu	Pro	Phe
65					70					75					80

Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
 85 90 95
 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
 100 105 110
 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
 115 120 125
 Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
 130 135 140
 Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
 145 150 155 160
 Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
 165 170 175
 Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
 180 185 190
 Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
 195 200 205
 Gly Gln Asn Met Leu Asp Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
 210 215 220
 Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
 225 230 235 240
 Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
 245 250 255
 Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
 260 265 270
 Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
 275 280 285
 Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
 290 295 300
 His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
 305 310 315 320
 Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala
 325 330 335
 Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu Glu
 340 345 350
 Ile Leu Glu Glu Phe Gly Phe Ser Arg Glu Glu Ile Tyr Gln Leu Asn
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 Ser Asp Lys Ile Ile Glu Ser Asn Lys Val Lys Ala Ser Leu
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<210> 109

<211> 1524

<212> DNA

<213> Homo sapien

<400> 109

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gtcttctacc	gtccctacct	gcagatcttc	gggcagattc	cccaggagga	catggacgtg	480
gccctcatgg	agcacagcaa	ctgctcgctc	gagcccggct	tctgggcaca	ccctcctggg	540
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<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

<400> 110						
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<210> 111
 <211> 1289
 <212> DNA
 <213> Homo sapien

<400> 111						
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<210> 112
 <211> 315
 <212> PRT
 <213> Homo sapien

<400> 112															
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Leu	Gly	Pro	Lys	Ile	Val	Ile	Val	Ser	Lys	Met	Met	Lys	Asp	Val	Phe
			20					25					30		
Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr	Gly	Val	Ala
		35				40					45				
Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro	Ser	Ile	Leu
	50					55					60				
Arg	Arg	Val	Phe	Tyr	Arg	Pro	Tyr	Leu	Gln	Ile	Phe	Gly	Gln	Ile	Pro
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Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn	Cys	Ser	Ser
			85						90					95	
Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala	Gly	Thr	Cys
			100					105					110		
Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	Leu	Leu	Val	Ile	Phe

115	120	125
Leu Leu Val Ala Asn Ile	Leu Leu Val Asn Leu	Leu Ile Ala Met Phe
130	135	140
Ser Tyr Thr Phe Gly Lys	Val Gln Gly Asn Ser	Asp Leu Tyr Trp Lys
145	150	155
Ala Gln Arg Tyr Arg Leu	Ile Arg Glu Phe His	Ser Arg Pro Ala Leu
165	170	175
Ala Pro Pro Phe Ile Val	Ile Ser His Leu Arg	Leu Leu Leu Arg Gln
180	185	190
Leu Cys Arg Arg Pro Arg	Ser Pro Gln Pro Ser	Ser Pro Ala Leu Glu
195	200	205
His Phe Arg Val Tyr Leu	Ser Lys Glu Ala Glu	Arg Lys Leu Leu Thr
210	215	220
Trp Glu Ser Val His Lys	Glu Asn Phe Leu Leu	Ala Arg Ala Arg Asp
225	230	235
Lys Arg Glu Ser Asp Ser	Glu Arg Leu Lys Arg	Thr Ser Gln Lys Val
245	250	255
Asp Leu Ala Leu Lys Gln	Leu Gly His Ile Arg	Glu Tyr Glu Gln Arg
260	265	270
Leu Lys Val Leu Glu Arg	Glu Val Gln Gln Cys	Ser Arg Val Leu Gly
275	280	285
Trp Val Ala Glu Ala Leu	Ser Arg Ser Ala Leu	Leu Pro Pro Gly Gly
290	295	300
Pro Pro Pro Pro Asp Leu	Pro Gly Ser Lys Asp	315
305	310	

<210> 113
 <211> 553
 <212> PRT
 <213> Homo sapien

<400> 113
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Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val
35 40 45
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly
50 55 60
Leu Val Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly
65 70 75 80
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile
85 90 95
Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu
100 105 110
Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly
115 120 125
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu
130 135 140
Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala
145 150 155 160
Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr
165 170 175
Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu
180 185 190
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu
195 200 205
Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly
210 215 220
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His
225 230 235 240

Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu
 245 250 255
 Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg
 260 265 270
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe
 275 280 285
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
 290 295 300
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
 325 330 335
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
 340 345 350
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
 370 375 380
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
 405 410 415
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
 420 425 430
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
 435 440 445
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser
 450 455 460
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
 515 520 525
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
 530 535 540
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 545 550

<210> 114

<211> 241

<212> PRT

<213> Homo sapien

<400> 114

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 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile
 85 90 95
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
 100 105 110
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys


```

aataaggcaa aatatatgaa acaacagggtc tcgagatatt ggaaatcagt caatgaagga      180
tactgatccc tgatcactgt cctaattgcag gatgtgggaa acagatgagg tcacctctgt      240
gactgccccca gcttactgcc tgtagagagt ttctangctg cagttcagac agggagaaat      300
tggtt                                           305

```

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<210> 118
<211> 71
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(71)
<223> n = A,T,C or G

```

```

<400> 118
accaaagtggt ntgaatctct gacgtgggga tctctgattc ccgcacaatc tgagtggaaa      60
aantcctggg t                                           71

```

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<210> 119
<211> 212
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(212)
<223> n = A,T,C or G

```

```

<400> 119
actccggttg gtgtcagcag cacgtggcat tgaacatngc aatgtggagc ccaaaccaca      60
gaaaatgggg tgaaattggc caactttcta tnaacttatg ttggcaantt tgccaccaac      120
agtaagctgg cccttctaataaaaagaaaat tgaaagggtt ctcactaanc ggaattaant      180
aatggantca aganactccc aggcctcagc gt                                           212

```

```

<210> 120
<211> 90
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(90)
<223> n = A,T,C or G

```

```

<400> 120
actcgttgca natcaggggc cccccagagt caccgttgca ggagtccttc tgggtcttgcc      60
ctccgccggc gcagaacatg ctgggggtggt                                           90

```

```

<210> 121
<211> 218
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(218)
<223> n = A,T,C or G

```

```

<400> 121
tgtancgtga anacgacaga naggggtgtc aaaaatggag aanccttgaa gtcattttga      60
gaataagatt tgctaaaaga tttgggggcta aaacatgggt attgggagac atttctgaag      120

```

atatncangt aaattangga atgaattcat ggttcttttg ggaattcctt tacgatngcc 180
 agcatanact tcatgtgggg atancagcta cccttgta 218

<210> 122
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 122
 taggggtgta tgcaactgta aggacaaaaa ttgagactca actggcttaa ccaataaagg 60
 catttgtag ctcattggaac aggaagtcgg atggtggggc atcttcagtg ctgcatgagt 120
 caccaccccg gcgggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123
 <211> 76
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(76)
 <223> n = A,T,C or G

<400> 123
 tgtagcgtga agacnacaga atggtgtgtg ctgtgctatc caggaacaca tttattatca 60
 ttatcaanta ttgtgt 76

<210> 124
 <211> 131
 <212> DNA
 <213> Homo sapien

<400> 124
 acctttcccc aaggccaatg tcctgtgtgc taactggccg gctgcaggac agctgcaatt 60
 caatgtgctg ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120
 ttaagatttg t 131

<210> 125
 <211> 432
 <212> DNA
 <213> Homo sapien

<400> 125
 actttatcta ctggctatga aatagatggt ggaaaattgc gttaccaact ataccactgg 60
 cttgaaaaag aggtgatagc tcttcagagg acttgtgact ttgctcaga tgctgaagaa 120
 ctacagtctg catttggcag aaatgaagat gaatttgat taaatgagga tgctgaagat 180
 ttgcctcacc aaacaaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg 240
 ctcttgaaat atcagtcact ttgagaatg tttcttagtt actgcatact tcatggatcc 300
 catggtgggg gtcttgcac tgtaagaatg gaattgattt tgcttttgca agaattctcag 360
 caggaaacat cagaaccact attttctagc cctctgtcag agcaaaccctc agtgccctctc 420
 ctctttgctt gt 432

<210> 126
 <211> 112
 <212> DNA
 <213> Homo sapien

<400> 126
 acacaacttg aatagtaaaa tagaaactga gctgaaattt ctaattcact ttctaaccat 60
 agtaagaatg atatttcccc ccagggatca ccaaatttt ataaaaattt gt 112

<210> 127

<211> 54
 <212> DNA
 <213> Homo sapien

<400> 127
 accacgaaac cacaacaag atggaagcat caatccactt gccaaagcaca gcag 54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128
 acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc 60
 acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca 120
 ttctctctga agtctaggtt acccattttg gggacccatt ataggcaata aacacagttc 180
 ccaaagcatt tggacagttt cttgtttgtg tttagaatgg ttttcctttt tcttagcctt 240
 ttcctgcaaa aggtcactc agtccttgc ttgtcagtg gactgggctc cccagggcct 300
 aggtgcctt cttttccatg tcc 323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(192)
 <223> n = A,T,C or G

<400> 129
 acatacatgt gtgtatatatt ttaaatatca cttttgtatc actctgactt tttagcatac 60
 tgaaaacaca ctaacataat ttntgtgaac catgatcaga tacaacccaa atcattcatc 120
 tagcacattc atctgtgata naaagatagg tgagtttcat ttccttcacg ttggccaatg 180
 gataaacaac gt 192

<210> 130
 <211> 362
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(362)
 <223> n = A,T,C or G

<400> 130
 ccctttttta tggaatgagt agactgtatg tttgaanatt tanccacaac ctctttgaca 60
 tataatgacg caacaaaaag gtgctgttta gtcctatggg tcagtttatg cccctgacaa 120
 gtttccattg tgttttgccg atcttctggc taatcgtggg atcctccatg ttattagtaa 180
 ttctgtattc cattttgtta acgcctggta gatgtaacct gctangaggc taactttata 240
 cttatttaaa agctcttatt ttgtggtcat taaaatggca atttatgtgc agcactttat 300
 tgcagcagga agcacgtgtg gggttggttg aaagctcttt gctaattctta aaaagtaatg 360
 gg 362

<210> 131
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 131

ctttttgaaa gatcgtgtcc actcctgtgg acatccttgtt ttaatggagt ttcccatgca	60
gtangactgg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaaatgaga	120
gttctcccag gttcgccctg ctgctccaag tctcagcagc agcctctttt aggaggcatc	180
ttctgaacta gattaaggca gcttgtaa atctgatgtgat ttgggtttatt atccaactaa	240
cttccatctg ttatcactgg agaaagccca gactccccc an gacnggtacg gattgtgggc	300
atanaaggat tgggtgaagc tggcgttgtg gt	332

<210> 132

<211> 322

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(322)

<223> n = A,T,C or G

<400> 132

acttttgcca ttttgtatat ataaacaatc ttgggacatt ctcttgaaaa ctagggtgtcc	60
agtggctaag agaactcgat ttcaagcaat tctgaaagga aaaccagcat gacacagaat	120
ctcaaattcc caaacagggg ctctgtggga aaaatgaggg aggacctttg tatctcgggt	180
tttagcaagt taaaatgaan atgacaggaa aggccttatt atcaacaaag agaagagttg	240
ggatgcttct aaaaaaaact ttggtagaga aaataggaat gctnaatcct agggaagcct	300
gtaacaatct acaattgggtc ca	322

<210> 133

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 133

acaagccttc acaagtttaa cttaaattggg attaatcttt ctgtanttat ctgcataatt	60
cttggttttc tttccatctg gctcctgggt tgacaatttg tggaaacaac tctattgcta	120
ctattttaaaa aaaatcacaa atctttccct ttaagctatg ttnaattcaa actattcctg	180
ctattcctgt tttgtcaaag aaatttatatt tttcaaaaata tgtntatttg tttgatgggt	240
cccacgaaac actaataaaa accacagaga ccagcctg	278

<210> 134

<211> 121

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(121)

<223> n = A,T,C or G

<400> 134

gtttanaaaa cttgttttagc tccatagagg aaagaatggt aaactttgta ttttaaaaca	60
tgattctctg aggttaaact tggttttcaa atgttatatt tacttgatt ttgcttttgg	120
t	121

<210> 135

<211> 350
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(350)
 <223> n = A,T,C or G

<400> 135
 acttanaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctataacc 60
 atancaagtgtgtgactgggtt aagcgtgcga caaagggtcag ctggcacatt acttgtgtgc 120
 aaacttgata cttttgttct aagtaggaac tagtatacag tncctaggan tggtaactcca 180
 ggggtgcccc caactcctgc agccgctcct ctgtgccagn ccctgnaagg aactttcgct 240
 ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgctgag 300
 ttcccaagga tgcaaagcct ggtgctcaac tcctggggcg tcaactcagt 350

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(399)
 <223> n = A,T,C or G

<400> 136
 tgtaccgtga agacgacaga agttgcatgg cagggacagg gcagggccga ggccagggtt 60
 gctgtgattg tatccgaata ntcctcgtga gaaaagataa tgagatgacg tgagcagcct 120
 gcagacttgt gtctgccttc aanaagccag acaggaaggc cctgcctgcc ttggctctga 180
 cctggcggcc agccagccag ccacaggtgg gcttcttctt tttgtggtga caacnccaag 240
 aaaactgcag aggccagggt tcaggtgtna gtgggtangt gaccataaaa caccaggtgc 300
 tcccaggaac ccgggcaaag gccatcccca cctacagcca gcatgcccac tggcgtgatg 360
 ggtgcagang gatgaagcag ccagntgttc tgctgtggt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tngggggtga tgctggtggt anaagttgan gtgacttcan gatggtgtgt 60
 ggaggaagtgtgtgaacgta gggatgtaga ngttttggcc gtgctaaatg agcttcggga 120
 ttggctgggtc ccactggtgg tcactgtcat tgggtggggt cctgt 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 138

actcactgga	atgccacatt	cacaacagaa	tcagaggtct	gtgaaaacat	taatggctcc	60
ttaacttctc	cagtaagaat	cagggacttg	aaatggaaac	gttaacagcc	acatgcccaa	120
tgctgggcag	tctcccatgc	cttccacagt	gaaagggctt	gagaaaaatc	acatccaatg	180
tcatgtgttt	ccagccacac	caaaaggtgc	ttgggggtga	gggctggggg	catananggt	240
cangcctcag	gaagcctcaa	gttccattca	gctttgccac	tgtacattcc	ccatntttaa	300
aaaaactgat	gccttttttt	tttttttttg	taaaattc			338

<210> 139
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 139						
gggaatcttg	gtttttggca	tctggtttgc	ctatagccga	ggccactttg	acagaacaaa	60
gaaagggact	tcagagtaaga	aggtgattta	cagccagcct	agtgcccgaa	gtgaaggaga	120
attcaaacag	acctcgatcat	tcctgggtgtg	agcctggctg	gctcaccgcc	tatcatctgc	180
atttgccctta	ctcaggtgct	accggactct	ggccccctgat	gtctgtagtt	tcacaggatg	240
ccttattttgt	cttctacacc	ccacagggcc	ccctacttct	tcggatgtgt	ttttaataat	300
gtcagctatg	tgccccatcc	tccttcacgc	cctccctccc	tttctacca	ctgctgagtg	360
gcctggaact	tgtttaaagt	gt				382

<210> 140
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(200)
 <223> n = A,T,C or G

<400> 140						
accaaanctt	ctttctgttg	tgtnngattt	tactataggg	gttnngcttn	ttctaaanat	60
acttttcatt	taacancatt	tgtaagtgt	caggctgcac	tttgcctccat	anaattattg	120
ttttcacatt	tcaacttgta	tgtgtttgtc	tcttanagca	ttggtgaaat	cacatatttt	180
atattcagca	taaaggagaa					200

<210> 141
 <211> 335
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(335)
 <223> n = A,T,C or G

<400> 141						
actttatttt	caaaacactc	atatgttgca	aaaaacacat	agaaaaataa	agtttggtgg	60
gggtgctgac	taaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggtttgtt	120
atgcatgtag	agaaccctaa	ctaattttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aatggttctg	agaaccatcc	aattcacctg	tcagatgctg	atanactagc	tcttcagatg	240
tttttctacc	agttcagaga	tnggttaatg	actanttcca	atggggaaaa	agcaagatgg	300
attcacaaac	caagtaattt	taaacaaaga	cactt			335

<210> 142
 <211> 459
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(459)

<223> n = A,T,C or G

<400> 142

accagggttaa	tattgccaca	tatatccttt	ccaattgcfg	gctaaacaga	cgtgtattta	60
gggttggtta	aagacaaccc	agcttaatat	caagagaaat	tgtgaccttt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagc	agtctgatca	180
cacatgggtcc	aacaacactc	aaataataaa	tcaaataatna	tcagatgtta	aagattgggtc	240
ttcaaacatc	atagccaatg	atgccccgct	tgccctataat	ctctccgaca	taaaaccaca	300
tcaaacacctc	agtggccacc	aaaccattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctaggggatct	420
cagcanggggt	gggaggaacc	agctcaacct	tggcgctant			459

<210> 143

<211> 140

<212> DNA

<213> Homo sapien

<400> 143

acatttcctt	ccaccaagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aaatccaaac	agtctctcct	agaaaggaat	agtgtcacca	acccacacca	tctccctgag	120
accatccgac	ttccctgtgt					140

<210> 144

<211> 164

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(164)

<223> n = A,T,C or G

<400> 144

acttcagtaa	caacatacaa	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaaaacaan	aatcactanc	caatcactta	tacaaatttg	120
aggcaattaa	tccatatttg	ttttcaataa	ggaaaaaaag	atgt		164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 145

acgtagacca	tccaactttg	tatttgtaat	ggcaaacatc	cagnagcaat	tcctaaacaa	60
actggagggt	atttataccc	aattatccca	ttcattaaca	tgccctcctc	ctcaggctat	120
gcaggacagc	tatcataagt	cggcccaggc	atccagatac	taccatttgt	ataaacttca	180
gtagggggagt	ccatccaagt	gacagggtcta	atcaaaggag	gaaatggaac	ataagcccag	240
tagtaaaatn	ttgcttagct	gaaacagcca	caaaagactt	accgcccgtg	tgattaccat	300
caa						303

<210> 146

<211> 327

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 146
 actgcagctc aattagaagt ggtctctgac tttcatcanc ttctccctgg gctccatgac 60
 actggcctgg agtgactcat tgctctgggt ggttgagaga gctcctttgc caacaggcct 120
 ccaagtcagg gctgggattt gtttcctttc cacattctag caacaatatg ctggccactt 180
 cctgaacagg gaggggtgga ggagccagca tggaacaagc tgccactttc taaagtagcc 240
 agacttgccc ctgggcctgt cacacctact gatgaccttc tgtgcctgca ggatggaatg 300
 taggggtgag ctgtgtgact ctatggt 327

<210> 147
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 147
 acattgtttt tttagataa agcattgana gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat cttgttctg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtt 173

<210> 148
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 148
 acaaccactt tatctcatcg aattttttaac ccaaactcac tcaactgtgcc tttctatcct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcactact 120
 gccctactac ctgctgcaat aatcacattc ccttcctgtc ctgaccctga agccattggg 180
 gtggctctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgctcac 240
 nccanccac ctacccgacc ccctcctctt acacagctac ctcccttgctc tctaacccca 300
 tagattatnt ccaaattcag tcaattaagt tactattaac actctacccg acatgtccag 360
 caccactggg aagccttctc cagccaacac acacacacac acacncacac acacacatat 420
 ccaggcacag gctacctcat cttcacaate acccctttaa ttaccatgct atggtgg 477

<210> 149
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 149
 acagttgtat tataatatca agaaataaac ttgcaatgag agcattttaag agggaagaac 60
 taacgtatatt tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct 120
 gatgataaat aagagtcagc caggtaagtg ggtggtgtgg tatgggcaca gtgaagaaca 180
 ttccaggcag agggaacagc agtgaaa 207

<210> 150
 <211> 111
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(111)
 <223> n = A,T,C or G

<400> 150
 accttgattt cattgctgct ctgatggaaa cccaactatc taatttagct aaaacatggg 60
 cacttaaatg tggtcagtgt ttggacttgt taactantgg catctttggg t 111

<210> 151
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 151
 agcgcgccag gtcattattga acattccaga tacctatcat tactcgatgc tgttgataac 60
 agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaacccat 120
 ggataccaac cggaaaacc cttatcccga cagcccactg tggccccac tgtctacgag 180
 gtgcatccgg ctgagt 196

<210> 152
 <211> 132
 <212> DNA
 <213> Homo sapien

<400> 152
 acagcacttt cacatgtaag aagggagaaa ttcctaaatg taggagaaaag ataacagaaac 60
 cttccctttt tcatctagtgt gtggaaacct gatgctttat gttgacagga atagaaccag 120
 gagggagttt gt 132

<210> 153
 <211> 285
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(285)
 <223> n = A,T,C or G

<400> 153
 acaanaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag 60
 cttctgtctt tatgtcctca tctgacaact ctttaccatt tttatcctcg ctcagcagga 120
 gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggaggaag tcatcaacac 180
 cctggctagt gaggggtgcgg cgccgctcct ggatgacggc atctgtgaag tcgtgcacca 240
 gtctgcaggc cctgtggaag cgccgtccac acggagtnag gaatt. 285

<210> 154
 <211> 333
 <212> DNA
 <213> Homo sapien

<400> 154
 accacagtcc tgttgggcca gggcttcatg accctttctg tgaaaagcca tattatcacc 60
 accccaaatt ttctcttaaa tatctttaac tgaaggggtc agcctcttga ctgcaaagac 120
 cctaagccgg ttacacagct aactcccact ggccctgatt tgtgaaattg ctgctgcctg 180
 attggcacag gagtgcgaagg tgttcagctc ccctcctccg tggaaacgaga ctctgatttg 240
 agtttcacaa attctcgggc cacctcgta ttgctcctct gaaataaaat ccggagaaatg 300
 gtcaggcctg tctcatccat atggatcttc cgg 333

<210> 155

<221> misc feature
<222> (1)...(137)
<223> n = A,T,C or G

<400> 163

cattatata gacaggcgtg aagacattca cgcacaaaac gcgaaattct atcccgtagc
canagaagc agctacggct actcctacat cctggcgtg gtggcctctg cctgcacctt
catcagcggc atgatgt

<210> 164
<211> 469
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(469)
<223> n = A,T,C or G

<400> 164

cttatcaca tgaatgttct cctgggcagc gttgtgatct ttgccacctt cgtgacttta
tgcaatgcac catgctattt catacctaact gagggagttc caggagattc aaccaggaaa
tgcatggatc tcaaaaggaaa caaacaccca ataaactcgg agtggcagac tgacaactgt
gagacatgca cttgctacga aacagaaatt tcatgttgca ccoctgtttc tacacctgtg
ggttatgaca aagacaactg ccaagaatc ttcaagaagg aggactgcaa gtatatcgtg
gtggagaaga aggacccaaa aaagacctgt tctgtcagtg aatggataat ctaatgtgct
tctagttagc acagggctcc caggccagcg ctcattctcc tctggcctct aatagtcact
gattgtgat ccagtcctat cagtaaaaaag atntttgagc aaacacttt

<210> 165
<211> 195
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(195)
<223> n = A,T,C or G

<400> 165

acagttttt atanatagc acattgccc cacttgtgtt cagtttcata aagctgggtg
atccgctgtc atccactatt ccttggttag agtaaaaatt attcttatag cccatgtccc
tgacggccgc ccgcccgtag ttctgttcc agtgccttg gcacacaggg tgccaggact
tcctctgaga tgagt

<210> 166
<211> 383
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(383)
<223> n = A,T,C or G

<400> 166

acatcttagt agtgtggcac atcagggggc catcagggtc acagtcactc atagcctcgc
cgaggtcgga gtccacacca ccggtgtagg tgtgtcctaat cttggcgttg gcgccacct
ttggagaagg gatagctgc acacacatgt ccacaaagcc tgtgaactcg ccaagaat
tttcagacc agcctgagca agggggcgat gttcagcttc agctcctctc tctcaggtg
gatgcccaac tctgtatagg tccgtgggaa gctgtgtcc acntcaccta caacctgggc
gangatctta taaagaggct ccnagataaa cttcaccgaaa cttctctggg agctgctagt

<211> 308
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(308)
<223> n = A,T,C or G

<400> 155

actggaaata ataaaaacca catcacagtg ttgtgtcaaa gatcatcagg gcatggatgg
gaaagtgtct tgggaactgt aaagtgccta acacatgac gatgatcttt gttataatat
ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggcccag cccagcccc
atcacagctc actgctctgt tcatccaggc caaccaaacc tctangtga cttcttggct
gcttttagcc tccanaagtt tctctgaagc caaccaaacc tctangtga aggcattgctg

<210> 156
<211> 295
<212> DNA
<213> Homo sapien

<400> 156

accttgctcg gtgcttgaa catattagga actcaaaata tgagatgata acagtgccta
ttattgata ctgagagAAC ttttagacat ttagttgaag attttctaca caggaaactga
gaataggaga ttatgtttgg cccatcatatt ctctcctatc ctcttgctt cattctatgt
ctaataatatt ctcaatcaaa taaggtttagc ataactcagga aatcgaccaa ataccaatat
aaaaccagat gtctatcctt aagattttca aatagaaac aaattaacag actat

<210> 157
<211> 126
<212> DNA
<213> Homo sapien

<400> 157

acaagttaa atagtgtctg cactgtgcat gtgtgaaat gtgaaatcca ccacattct
gaagagcaaa acaattctg tcatgtaac tctatctgg gtggtggga tatctgtccc

<210> 158
<211> 442
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(442)
<223> n = A,T,C or G

<400> 158

accactgtgt ctggaaaca cccatcctta atacgatgat tttctgtcg tgtgaaatg
aancacagag gctgccccta gtcagctctt ccttcacagag aaaaagagat ttgagaaat
gctgtgggtc tgaccaaagg aggtcatgtt ttgttgagca ttgggatcc cagtgaagta
natgttgta gcttgcata ctagccctt cccacgcaca aacggagtg cagagtgtg
ccaacctgt ttccacagtc cagtagaca gattcacagt gcggaattct ggaagtgtg
nacagacggg ctcttgag agccggact ctgaganga catgagggcc tctgctctg
tgtctattct ctgatgtct gt

<210> 159
<211> 498
<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (498)

<223> n = A, T, C or G

<400> 159

acttcagggt aacggtgttg tttccgttga gctgaactg atgggtgacg ttgtaggttc
tccaacaaga actgaggttg cagagcgggt aggaagagt gctgtccag ttgcacctgg
gctgctgttg actgtgttg attcctcact acggccaag gtgttgaaac tggcnaaaag
gtgtgtgttg gganttgagc tcggcggtgt gtgttaggtt gtgggtctt caacaggggc
tgctgtgttg cggggangtg tggggtgtgt gtcacttgag ctggccagc tctggaaagt
antanattct tcctgaaggg aangtgtgt gtgttaggtt gtgggtctt caacaggggc
cgaaccagtgt ctgctgtggg cagcgctgtgt gtagctggca nggtcangt ttgtgtgtta
tcaggtana atgtgtgtt tgggtgtana tctccacaa agcctgaagt tatgtgtctn
aagggaataa gctgtgtt agtgcctgt ggcngctgtg gaaggttga nattgtcacc

<210> 160

<211> 380

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (380)

<223> n = A, T, C or G

<400> 160

acctgcacc agcttccctg ccaaactcac aaggagacat caacctctag acagggaac
agcttcagga tacttccagg agacagagcc accagcagca aaacaaatat tccatgcct
ggagcatggc atagaggaag ctganaaatg tggggtctga ggaagccatt tgagtctgc
cactagacat ctcatcagcc acttgtgtga agagatgccc catgacccca gatgcctctc
ccacccttac ctccatctca cactcttgag ctttccactc tgtataatc taacatcctg
gagaaaaatg gcagtttgac cgaacctgtt cacaacggta gaggctgatt tctaacgaaa
ctgtagaat gaagcctgga

<210> 161

<211> 114

<212> DNA

<213> Homo sapien

<400> 161

actccacatc cctctgagc aggcgggtgt cgttcaaggt gtatttgccc ttgctgtgca
cactgtccac tggccctta tccacttgtt gcttaatccc tggaaagagc atgt

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

actttctgaa tcgaatcaaa tgatacttag tgtagtgtta atatcctcat atatatcaaa
gttttactac tctgataatt ttgtaacca ggttaaccaga acatccagtc atacagtttt
tggtgatata taacttgga ataaccagct ctggtgatac ataaactac tcaactgt

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

nggggocctt ttggtgaact ttc

<210> 167

<211> 247

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (247)

<223> n = A, T, C or G

<400> 167

acagagccag acctggcca taaatgaanc agagattaag actaaacccc aagtcanat 60
tggagcagaa actggagcaa gaagtgggcc tggggctgaa gttagagacca aggccactgc 120
tatanccata cacagagcca actctcagc caagcgnatg gttggggcag anccagagac 180
tcaatctgan tccaagtgg tggctggaac actggtcatg acanaggcag tgactctgac 240
tgangtc 247

<210> 168

<211> 273

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (273)

<223> n = A, T, C or G

<400> 168

acttctaagt ttctagaag tggaggatt gtantcatcc tgaatggg tttactcaa 60
aatccctcan cttgttctt cactactgtc tatactgana gtgtcatgtt tccacaaag 120
gtgcacact gagcctgnat ttctactcat ccttgagaag cctttccag taggggtggc 180
aattcccaac ttcttgcca caagcttccc aggtttctc ccttgaaaa ctccagcttg 240
agtcccatg acactcatg gctgccttg gca 273

<210> 169

<211> 431

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (431)

<223> n = A, T, C or G

<400> 169

acagccttg ctccccaaa ctccacagtc tcaatgcaga aagatcatct tccagcagtc 60
agctcagacc aggtcaaag gatgtgacat caacagtttc tggtttcaga acaggttcta 120
ctactgtcaa atgaccccc atacttctc aaaggtgtg gtaagttttg cacaggtgag 180
ggcagcagaa aggggttant tactgatgga caccatcttc tctgtatct ccacactgac 240
cttgcatgg gcaaaggccc ctaccacaaa aacaatagga tcaactgtgg gcaccagctc 300
acgcacatca ctgacaaccg ggtatgaaaa agaantgcca actttcatac atccaactgg 360
aaagtgtat gatactggat tcttaattac ctcaaaaagc ttctgggggc catcagctgc 420
tcgaacactg a 431

<210> 170

<211> 266

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 170
 acctgtgggc tgggctgtta tgccctgtgcc ggctgtctgaa agggagttca gaggtggagc 60
 tcaaggagct ctgcaggcat tttgccaanc ctctccanag canagggagc aacctacact 120
 ccccgcctaga aagacaccag attggagtc tgggaggggg agttgggggtg ggcatttgat 180
 gtatacttgt cacctgaatg aangagccag agaggaanga gacgaanatg anattggcct 240
 tcaaagctag gggctctggca ggtgga 266

<210> 171
 <211> 1248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1248)
 <223> n = A,T,C or G

<400> 171
 ggcagccaaa tcataaacgg cgaggactgc agcccgcaact cgcagccctg gcaggcggca 60
 ctggtcatgg aaaacgaatt gttctgctcg ggcgtccctg tgcattccgca gtgggtgctg 120
 tcagccgcac actgtttcca gaagtgaagt cagagctcct acaccatcgg gctgggcctg 180
 cacagtcttg aggccgacca agagccaggg agccagatgg tggaggccag cctctccgta 240
 cggcaccacag agtacaacag acccttgctc gctaacgacc tcatgctcat caagttggac 300
 gaatccgtgt ccgagtctga caccatccgg agcatcagca ttgcttcgca gtgccctacc 360
 gcggggaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc 420
 gtgctgcagt gcgtgaacgt gtcggtggtg tctgaggagg tctgcagtaa gctctatgac 480
 ccgctgtacc accccagcat gttctgcgcc ggcggaggggc aagaccagaa ggactcctgc 540
 aacggtgact ctggggggcc cctgatctgc aacgggtact tgcagggcct tgtgtctttc 600
 ggaaaagccc cgtgtggcca agttggcgtg ccagggtgtct acaccaacct ctgcaaattc 660
 actgagtggg tagagaaaac cgtccaggcc agttaactct ggggactggg aacctcatgaa 720
 attgaccccc aaatacatcc tgcggaagga attcaggaat atctgttccc agcccctcct 780
 ccctcaggcc caggagtcca ggcccccagc ccctcctccc tcaaaccaag ggtacagatc 840
 cccagcccct cctccctcag acccaggagt ccagaccccc cagcccctcc tccctcagac 900
 ccaggagtcc agcccctcct ccctcagacc caggagtcca gacccccccag cccctcctcc 960
 ctcagaccca ggggtccagg cccccaaccc ctccctccctc agactcagag gtccaagccc 1020
 ccaacccntc attccccaga cccagaggtc cagggtcccag cccctcntcc ctcagaccca 1080
 gcgggtccaat gccacctaga ctntccctgt acacagtgcc cccttgtggc acgttgaccc 1140
 aaccttacca gttggttttt catttttngt ccctttcccc tagatccaga aataaagttt 1200
 aagagaagng caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1248

<210> 172
 <211> 159
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(159)
 <223> Xaa = Any Amino Acid

<400> 172
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1 5 10 15
 Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
 20 25 30
 Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
 35 40 45
 Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly

56

50						55						60				
Arg	Met	Pro	Thr	Val	Leu	Gln	Cys	Val	Asn	Val	Ser	Val	Val	Ser	Glu	
65					70					75					80	
Glu	Val	Cys	Ser	Lys	Leu	Tyr	Asp	Pro	Leu	Tyr	His	Pro	Ser	Met	Phe	
				85					90					95		
Cys	Ala	Gly	Gly	Gln	Xaa	Gln	Xaa	Asp	Ser	Cys	Asn	Gly	Asp	Ser		
			100				105					110				
Gly	Gly	Pro	Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu	Val	Ser	Phe	
		115				120				125						
Gly	Lys	Ala	Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Gly	Val	Tyr	Thr	Asn	
	130					135				140						
Leu	Cys	Lys	Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser		
145					150					155						

<210> 173

<211> 1265

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1265)

<223> n = A,T,C or G

<400> 173

ggcagcccgc	actgcgagcc	ctggcaggcg	gcactgggtca	tggaaaacga	attgttctgc	60
tcgggcgctc	tggtgcatcc	gcagtgggtg	ctgtcagccg	cacactgttt	ccagaactcc	120
tacaccatcg	ggctgggcct	gcacagtctt	gaggccgacc	aagagccagg	gagccagatg	180
gtggaggcca	gcctctccgt	acggcaccca	gagtacaaca	gacccttgct	cgctaacgac	240
ctcatgtctc	tcaagttgga	cgaatccgtg	tccgagtctg	acaccatccg	gagcatcagc	300
attgcttcgc	agtgccttac	cgcggggaac	tcttgccctg	tttctggctg	gggtctgctg	360
gcgaacggtg	agctcacggg	tgtgtgtctg	ccctcttcaa	ggaggtcctc	tgcccagtcg	420
cgggggctga	cccagagctc	tgcgtcccag	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtcggg	ggtgtctgag	gagggtctgca	gtaagctcta	tgaccgcgtg	taccacccca	540
gcatgttctg	cgccggcgga	gggcaagacc	agaaggactc	ctgcaacggg	gactctgggg	600
ggccctgat	ctgcaacggg	tacttgcaag	gccttggtgc	tttcggaaaa	gcccogtgtg	660
gccaagttgg	cgtgccaggt	gtctacacca	acctctgcaa	attcactgag	tggatagaga	720
aaaccgtcca	ggccagttaa	ctctggggac	tgggaaccca	tgaaattgac	ccccaataac	780
atcctgcgga	aggaattcag	gaatatctgt	tcccagcccc	tcctccctca	ggcccaggag	840
tccaggcccc	cagcccctcc	tccctcaaac	caagggtaca	gatccccagc	ccctcctccc	900
tcagaccag	gagtccagac	ccccagcccc	ctcctccctc	agaccagga	gtccagcccc	960
tcctcctca	gaccagagg	tccagacccc	ccagcccctc	ctccctcaga	cccagggggt	1020
gaggccccca	accctcctc	cttcagagtc	agaggtccaa	gcccccaacc	cctcgttccc	1080
cagaccagga	ggttnaggtc	ccagcccctc	ttccntcaga	cccagnggtc	caatgccacc	1140
tagattttcc	ctgnacacag	tgcccccttg	tggnangttg	acccaacctt	accagttggt	1200
ttttcatttt	tngtcccttt	cccctagatc	cagaaataaa	gtttaagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174

<211> 1459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1459)

<223> n = A,T,C or G

<400> 174

ggtcagccgc	acactgtttc	cagaagtggg	tgcagagctc	ctacaccatc	gggctggggc	60
tgcacagtct	tgaggccgac	caagagccag	ggagccagat	ggtggaggcc	agcctctccg	120
tacggcacc	agagtacaac	agacccttgc	tcgctaacga	cctcatgtct	atcaagttgg	180

acgaatccgt	gtccgagttc	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcctta	240
ccgcggggaa	ctcttgcttc	gtttctggct	gggtgtctgt	ggcgaacggt	gagctcacgg	300
gtgtgtgtct	gccctcttca	aggaggtcct	ctgcccagtc	gcgggggctg	acccagagct	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgctgt	aacgtgtcgg	tgggtgtctga	420
ngaggtctgc	antaagctct	atgacccgct	gtaccacccc	ancatgttct	gcgccggcgg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgact	540
caggggaaggg	tggagaaggg	ggagacagag	acacacaggg	ccgcatggcg	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcaaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaca	gcatggggcc	tgagggcggt	780
gacctccacc	caatagaaaa	tectcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttacca	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgcatt	catgatatac	ctttgttgga	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	ttttttaaat	tggtgcaact	ctcctaaaaat	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttggtgat	tcaaaccagg	gttggtcaag	ggtcaactgt	1080
gtacccagag	ggaaacagtg	acacagattc	atagaggtga	aacacgaaga	gaaacaggaa	1140
aaatcaagac	tctacaaaga	ggctgggcag	gggtggctcat	gcctgtaatc	ccagcacttt	1200
gggaggcgag	gcaggcgatg	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggcgccctgt	1320
aatcccagct	acttgggagg	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgagtt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaaa					1459

<210> 175

<211> 1167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1167)

<223> n = A,T,C or G

<400> 175

gcgcagccct	ggcaggcggc	actgggtcatg	gaaaacgaat	tggtctgctc	gggcgtcctg	60
gtgcatccgc	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcctgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggt	ggaggccagc	180
ctctccgtac	ggcaccacga	gtacaacaga	ctcttgctcg	ctaaccgacct	catgctcatc	240
aagttggacg	aatccgtgtc	cgagtctgac	accatccgga	gcatcagcat	tgcttcgcag	300
tgccctaccg	cggggaactc	ttgcctcgtn	tctggctggg	gtctgctggc	gaacggcgag	360
atgcctaccg	tgctgcaactg	cgtgaacgtg	tgggtgggtg	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgctgtacca	ccccagcatg	ttctgcgccc	gcggaggggca	agaccagaag	480
gactcctgca	acggtgactc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	caggtgtcta	caccaacctc	600
tgcaaattca	ctgagtggat	agagaaaaac	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccca	aatacatcct	gcggaangaa	ttcaggaata	tctgttccca	720
gcccctcctc	cctcaggccc	aggagtccag	gccccagccc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagccccctc	ctccctcaga	cccaggagtc	cagaccccccc	agccccctct	840
ccntcagacc	caggagtcca	gcccctcctc	ontcagacgc	aggagtccag	acccccccagc	900
ccntcntccg	tcagaccagc	gggtgcaggc	ccccaacccc	tctcctntca	gagtcagagg	960
tccaagcccc	caaccctcctg	ttccccagac	ccagaggtnc	agggtcccagc	ccctcctccc	1020
tcagaccagc	cggtccaatg	ccacctagan	tntccctgta	cacagtgcgc	ccttggtggca	1080
ngttgaccca	accttaccag	ttggtttttc	attttttgtc	cctttccccc	agatccagaa	1140
ataaagtnta	agagaagcgc	aaaaaaa				1167

<210> 176

<211> 205

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(205)

<223> Xaa = Any Amino Acid

<400> 176

```

Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1      5      10      15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20      25      30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35      40      45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50      55      60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65      70      75      80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85      90      95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
100      105      110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
115      120      125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
130      135      140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
145      150      155      160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
165      170      175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
180      185      190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
195      200      205

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<210> 177

<211> 1119

<212> DNA

<213> Homo sapien

<400> 177

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gcgcactcgc agccctggca ggcggcactg gtcattggaaa acgaattggt ctgctcgggc      60
gtcctgggtgc atccgcagtg ggtgctgtca gccgcacact gtttccagaa ctccctacacc      120
atcgggctgag gcctgcacag tcttgaggcc gaccaagagc cagggagcca gatggtggag      180
gccagcctct ccgtacggca cccagagtac aacagaccct tgctcgctaa cgacctcatg      240
ctcatcaagt tggacgaatc cgtgtccgag tctgacacca tccggagcat cagcattgct      300
tcgcagtgcc ctaccgcggg gaactcttgc ctcggttctg gctggggtct gctggcgaaac      360
gatgctgtga ttgccatcca gtcccagact gtgggaggct gggagtgtga gaagctttcc      420
caaccctggc aggggtgtac catttcggca acttccagtg caaggacgtc ctgctgcac      480
ctcactgggt gctcactact gctcactgca tcaccgggaa cactgtgatc aactagccag      540
caccatagtt ctccgaagtc agactatcat gattactgtg ttgactgtgc tgtctattgt      600
actaaccatg ccgatgttta ggtgaaatta gcgtcacttg gcctcaacca tcttggtatc      660
cagttatcct cactgaattg agatttcctg cttcagtgtc agccattccc acataatttc      720
tgacctacag aggtgaggga tcatatagct cttcaaggat gctgggtactc ccctcacaaa      780
ttcatttctc ctgtttagtg gaaagggtgc ccctctggag cctcccaggg tgggtgtgca      840
ggtcacaatg atgaatgtat gatcgtgttc ccattaccca aagcctttaa atccctcatg      900
ctcagtagac cagggcaggt ctagcatttc ttcatctagt gtatgctgtc cattcatgca      960
accacctcag gactcctgga ttctctgcct agttgagctc ctgcatgctg cctccttgagg      1020
gaggtgaggg agagggccca tggttcaatg ggatctgtgc agttgtaaca cattaggtgc      1080
ttaataaaca gaagctgtga tgttaaaaaa aaaaaaaaaa      1119

```

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(164)

<223> Xaa = Any Amino Acid

<400> 178

Met	Glu	Asn	Glu	Leu	Phe	Cys	Ser	Gly	Val	Leu	Val	His	Pro	Gln	Trp
1				5					10					15	
Val	Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu
			20					25					30		
Gly	Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val
		35					40					45			
Glu	Ala	Ser	Leu	Ser	Val	Arg	His	Pro	Glu	Tyr	Asn	Arg	Pro	Leu	Leu
	50					55					60				
Ala	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asp	Glu	Ser	Val	Ser	Glu	Ser
65					70				75					80	
Asp	Thr	Ile	Arg	Ser	Ile	Ser	Ile	Ala	Ser	Gln	Cys	Pro	Thr	Ala	Gly
			85						90					95	
Asn	Ser	Cys	Leu	Val	Ser	Gly	Trp	Gly	Leu	Leu	Ala	Asn	Asp	Ala	Val
			100					105					110		
Ile	Ala	Ile	Gln	Ser	Xaa	Thr	Val	Gly	Gly	Trp	Glu	Cys	Glu	Lys	Leu
		115					120					125			
Ser	Gln	Pro	Trp	Gln	Gly	Cys	Thr	Ile	Ser	Ala	Thr	Ser	Ser	Ala	Arg
	130					135					140				
Thr	Ser	Cys	Cys	Ile	Leu	Thr	Gly	Cys	Ser	Leu	Leu	Leu	Thr	Ala	Ser
145					150					155					160
Pro	Gly	Thr	Leu												

<210> 179

<211> 250

<212> DNA

<213> Homo sapien

<400> 179

ctggagtgcc	ttggtgtttc	aagcccctgc	aggaagcaga	atgcaccttc	tgaggcacct	60
ccagctgccc	ccggccgggg	gatgcgaggc	tccgagcacc	cttgcccggc	tgtgattgct	120
gccaggcact	gttcatctca	gcttttctgt	ccctttgctc	ccggcaagcg	cttctgctga	180
aagttcatat	ctggagcctg	atgtcttaac	gaataaaggt	cccatgctcc	acccgaaaaa	240
aaaaaaaaaa						250

<210> 180

<211> 202

<212> DNA

<213> Homo sapien

<400> 180

actagtccag	tgtggtggaa	ttccattgtg	ttgggcccac	cacaatggct	acctttaaca	60
tcacccagac	cccggcccctg	cccgctgccc	acgctgctgc	taacgacagt	atgatgctta	120
ctctgctact	cggaaactat	ttttatgtaa	ttaatgtatg	ctttcttggt	tataaatgcc	180
tgattttaaaa	aaaaaaaaaa	aa				202

<210> 181

<211> 558

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(558)

<223> n = A,T,C or G

```

<400> 181
tccytttght naggtttkkkg agacamccck agacctwaan ctgtgtcaca gacttcyngg      60
aatgttttagg cagtgtctagt aattttcytcg taatgattct gttattactt tcctnattct      120
ttattcctct ttcttctgaa gattaatgaa gttgaaaatt gaggtggata aatacaaaaa      180
ggtagtgtga tagtataagt atctaagtg cagatgaaagt gtgttatata tatccattca      240
aaattatgca agttagtaat tactcaggggt taactaaatt actttaatat gctgttgaac      300
ctactctgtt ccttggctag aaaaaattat aaacaggact ttgttagttt gggaagccaa      360
attgataata ttctatgttc taaaagttgg gctatacata aattattaag aaatatggaw      420
ttttattccc aggaatatgg kgttcatttt atgaatatta cscrggatag awgtwtgagt      480
aaaaycagtt ttggtwaata ygtwaatatg tcmtaaataa acaakgcttt gacttatttc      540
caaaaaaaaa aaaaaaaaaa

```

```

<210> 182
<211> 479
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(479)
<223> n = A,T,C or G

```

```

<400> 182
acagggwttk grggatgcta agsccccrga rwtggtttga tccaaccctg gcttwttttc      60
agaggggaaa atggggccta gaagttacag mscatytagy tgggtgcgmg gcacccctgg      120
cstcacacag astcccgagt agctgggact acaggcacac agtcactgaa gcaggccctg      180
ttwgcaattc acgttgccac ctccaactta aacattcttc atatgtgatg tccttagtca      240
ctaagggttaa actttcccac ccagaaaagg caacttagat aaaatcctag agtactttca      300
tactmttcta agtcctcttc cagcctcact kkgagtcctm cytggggggt gataggaant      360
ntctcttggc tttctcaata aartctctat ycatctcatg tttaatttgg tacgcatara      420
awtgstgara aaattaaaaat gttctggtty macttttaaaa araaaaaaaa aaaaaaaaaa      479

```

```

<210> 183
<211> 384
<212> DNA
<213> Homo sapien

```

```

<400> 183
aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactgggtgcc      60
agtaccagta ccaataacag tgccagtgcc agtgccagca ccagtgggtg cttcagtgtc      120
ggtgccagcc tgaccgccac tctcacattt gggctcttcg ctggccttgg tggagctggt      180
gccagcacca gtggcagctc tgggtgcctgt ggtttctcct acaagtgaga ttttagatat      240
tgtaatcct gccagtcttt ctcttcaagc cagggtgcat cctcagaaac ctactcaaca      300
cagcactcta ggcagccact atcaatcaat tgaagttgac actctgcatt aratctattt      360
gccatttcaa aaaaaaaaaa aaaa

```

```

<210> 184
<211> 496
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(496)
<223> n = A,T,C or G

```

```

<400> 184
accgaattgg gaccgctggc ttataagcga tcatgtyynt ccrgtatkac ctcaacgagc      60
aggagatcgc agtctatacg ctgaagaaat ttgacccgat gggacaacag acctgctcag      120
cccatcctgc tcggttctcc ccagatgaca aatactctsg acaccgaatc accatcaaga      180
aacgcttcaa ggtgtctcatg acccagcaac cgcgcctgt cctctgaggg tcccttaaac      240
tgatgtcttt tctgccacct gttacccttc ggagactccg taaccaaact cttcggaactg      300

```

tgagccctga	tgcctttttg	ccagccatac	tctttggcat	ccagtctctc	gtggcgattg	360
attatgcttg	tgtgaggcaa	tcatgggtgg	atcacccata	aagggaacac	atttgacttt	420
tttttctcat	attttaaatt	actacmagaw	tattwmagaw	waaatgawtt	gaaaaactst	480
taaaaaaaaa	aaaaaa					496

<210> 185
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 185	
gctggtagcc	tatggcgkgg
caagtatcyt	gcgcsqcgtc
aggaggacat	ggacgtggcc
gggcacaccc	tcttggggcc
tggtgctgct	cctcgtcac
ttgccatggt	cagttacaca
gcgcagcggt	accgcctcat
	ccgg
	60
	120
	180
	240
	300
	360
	384

<210> 186
 <211> 577
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n = A,T,C or G

<400> 186	
gagttagctc	ctccacaacc
tnccatcgtc	atactgtagg
ccaggaaact	ctcaatcaag
tcggtgtgaa	aggatctccc
attgagtcga	ttctgcatgt
cagccctatc	atgccgttga
ctcaccacga	ttctgcatta
gtggaaaaag	amcamctcct
tccttttgac	acacaaacaa
aagatntcgc	acagcactna
	60
	120
	180
	240
	300
	360
	420
	480
	540
	577

<210> 187
 <211> 534
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(534)
 <223> n = A,T,C or G

<400> 187	
aacatcttcc	tgtataatgc
actkggaaaa	gmaacattaa
ttaaacagtg	tgtcaatctg
tgccctattc	acacctgtta
gacacaagtc	cgaaaaaagc
ttcatgggac	agagccatyt
tgatatttga	gcggaagagt
ggatgttnac	naaagtwtatg
aggatctccc	agtttattta
	60
	120
	180
	240
	300
	360
	420
	480
	534

<210> 188
 <211> 761
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(761)
 <223> n = A,T,C or G

<400> 188

agaaaccagt	atctctnaaa	acaacctctc	ataccttgtg	gacctaat	ttgtgtgcgtg	60
tggtgtgtgcg	cgcatattat	atagacaggc	acatcttttt	tacttttgta	aaagcttatg	120
cctcttttgg	atctatatct	gtgaaagttt	taatgatctg	ccataatgtc	ttggggacct	180
ttgtcttctg	tgtaaatgg	actagagaaa	acacctatnt	tatgagtcaa	tctagttngt	240
tttattcgac	atgaaggaaa	tttccagatn	acaacactna	caaactctcc	ctkgackarg	300
ggggacaaaag	aaaagcaaaa	ctgamcataa	raaacaatwa	cctgggtgaga	arttgcataa	360
acagaaatwr	ggtagtatat	tgaarnacag	catcattaaa	rmgttwtkt	wttctccctt	420
gcaaaaaaca	tgtacngact	tcccgttgag	taatgccaa	ttgttttttt	tatnataaaa	480
cttgcccttc	attacatggt	tnaaagtgg	gtgggtggcc	aaaatattga	aatgatggaa	540
ctgactgata	aagctgtaca	aataagcagt	gtgcctaaca	agcaacacag	taatgttgac	600
atgcttaatt	cacaaatgct	aatttcatta	taaatgtttg	ctaaaataca	ctttgaacta	660
tttttctgtn	ttcccagagc	tgagatntta	gattttatgt	agtatnaagt	gaaaaantac	720
gaaaataata	acattgaaga	aaaananaaa	aaanaaaaaa	a		761

<210> 189
 <211> 482
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(482)
 <223> n = A,T,C or G

<400> 189

tttttttttt	tttgccgatn	ctactat	attgcaggan	gtgggggtgt	atgcaccgca	60
caccgggggt	atnagaagca	agaaggaag	agggagggca	cagccccttg	ctgagcaaca	120
aagccgcctg	ctgccttctc	tgtctgtctc	ctgggtgcagg	cacatgggga	gaccttcccc	180
aaggcagggg	ccaccagtcc	aggggtggga	atacaggggg	tgggangtgt	gcataagaag	240
tgataggcac	aggccacccg	gtacagaccc	ctcggctcct	gacaggtnga	tttcgaccag	300
gtcattgtgc	cctgcccagg	cacagcgtan	atctggaaaa	gacagaatgc	tttccttttc	360
aaatttggt	ngtcatngaa	ngggcanttt	tccaanttng	gctnggtctt	ggtacncttg	420
gttcggccca	gctccncgtc	caaaaantat	tcaccennct	ccnaattgct	tgcnngnccc	480
cc						482

<210> 190
 <211> 471
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(471)
 <223> n = A,T,C or G

<400> 190

tttttttttt	ttttaaaaca	gtttttcaca	acaaaattta	ttagaagaat	agtggttttg	60
aaaactctcg	catccagtga	gaactaccat	acaccacatt	acagctngga	atgtntctca	120
aatgtctgg	caaagtatac	aatggaacca	ttcaatctta	cacatgcacg	aaagaacaag	180
cgcttttgac	atacaatgca	caaaaaaaaa	aggggggggg	gaccacatgg	attaaaattt	240
taagtactca	tcacatacat	taagacacag	ttctagtcca	gtcnaaaatc	agaactgcnt	300

tgaaaaattt	catgtatgca	atccaaccaa	agaacttnat	tggtgatcat	gantnctteta	360
ctacatcnac	cttgcatt	gccaggaacn	aaaagttnaa	ancacncngt	acaaaaanaa	420
tctgtaattn	anttcaacct	ccgtacngaa	aaatnttntt	tatacactcc	c	471

<210> 191

<211> 402

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(402)

<223> n = A,T,C or G

<400> 191

gagggattga	aggtctgttc	tastgtcggm	ctgttcagcc	accaactcta	acaagttgct	60
gtcttccact	cactgtctgt	aagcttttta	acccagacwg	tatcttcata	aatagaacaa	120
attcttcacc	agtcacatct	tctaggacct	ttttggattc	agttagtata	agctcttcca	180
cttcttttgt	taagacttca	tctggtaaag	tcttaagttt	tgtagaaagg	aattyaattg	240
ctcgttctct	aacaatgtcc	tctccttgaa	gtatttggct	gaacaaccca	cctaaagtcc	300
ctttgtgcat	ccatttttaa	tatacttaat	agggcattgk	tncactaggt	taaattctgc	360
aagagtcatt	tgtctgcaaa	agttgcgtta	gtatatctgc	ca		402

<210> 192

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(601)

<223> n = A,T,C or G

<400> 192

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
ggtctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcytyttt	gaytaccgtg	tgccaagtgc	tggtgattct	yaacacacyt	ccatcccgyt	180
cttttgtgga	aaaactggca	cttkctctgga	actagcarga	catcacttac	aaattcaccc	240
acgagacact	tgaaagggtg	aacaaagcga	ytcttgcat	gctttttgtc	cctccggcac	300
cagttgtcaa	tactaaccgg	ctggtttgcc	tccatcacat	ttgtgatctg	tagctctgga	360
tacatctcct	gcagactactg	aagaacttct	tcttttgttt	caaaagcarc	tcttggtgcc	420
tgttggatca	ggttcccat	tcccagtcyg	aatgttcaca	tggcataatt	wacttccac	480
aaaacattgc	gatttgaggc	tcagcaacag	caaatcctgt	tccggcattg	gctgcaagag	540
cctcgatgta	gccggccagc	gccaaaggcag	gcgccgtgag	ccccaccagc	agcagaagca	600
g						601

<210> 193

<211> 608

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(608)

<223> n = A,T,C or G

<400> 193

atacagccca	natcccacca	cgaagatgcg	cttgttgact	gagaacctga	tgcggtcact	60
ggtcccgtcg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgactcytt	120
cccaacgcag	gcagmagcgg	gscgggtcaa	tgaactccay	tcgtggcttg	gggtkgacgg	180
tkaagtgcag	gaagaggctg	accacctcgc	ggtccaccag	gatgcccagc	tgtgcgggac	240
ctgcagcgaa	actcctcgat	ggtcatgagc	gggaagcgaa	tgaggcccag	ggccttgccc	300

```

agaaccttcc gcctgttctc tggcgctcacc tgcagctgct gccgctgaca ctccggcctcg 360
gaccagcgga caaacggcrt tgaacagccg cacctcacgg atgcccagtg tgcgcgctc 420
caggammgsc accagcgtgt ccagggtcaat gtcggtgaag ccctccgcgg gtrattggcgt 480
ctgcagtggt tttgtcgatg ttctccaggc acaggctggc cagctgcggg tcatcgaaga 540
gtcgcgcctg cgtgagcagc atgaaggcgt tgcggtcgcg cagttcttct tcaggaactc 600
cacgcaat 608

```

```

<210> 194
<211> 392
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

```

```

<400> 194
gaacggctgg accttgccctc gcattgtgct tgctggcagg gaataccttg gcaagcagyt 60
ccagtcgcag cagccccaga ccgctgccgc ccgaagctaa gcctgcctct ggccttcccc 120
tccgcctcaa tgcagaacca gtagtgggag cactgtgttt agagttaaga gtgaacactg 180
tttgatttta cttgggaatt tcctctgtta tatagctttt cccaatgcta atttccaaac 240
aacaacaaca aaataacatg tttgcctgtt aagttgtata aaagtaggtg attctgtatt 300
taaagaaaat attactgtta catatactgc ttgcaatttc tgtatttatt gktnctstgg 360
aaataaatat agttattaaa gggtgtcant cc 392

```

```

<210> 195
<211> 502
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G

```

```

<400> 195
ccsttkgagg ggtkaggkyc cagttyccga gtggaagaaa caggccagga gaagtgcgtg 60
ccgagctgag gcagatgttc ccacagtgac cccagagacc stgggstata gtytctgacc 120
cctcncaagg aaagaccacs ttctggggac atgggctgga gggcaggacc tagaggcacc 180
aagggaaggc cccattccgg ggstgttccc cgaggaggaa gggaaggggc tctgtgtgcc 240
ccccasgagg aagaggccct gaggcctggg atcagacacc ccttcacgtg tatccccaca 300
caaatgcaag ctcaccaagg tcccctctca gtccccttcc stacaccctg amcggccact 360
gscscacacc caccagagc acgccacccg ccatggggar tgtgctcaag gartcgcnng 420
gcarcgtgga catctngtcc cagaaggggg cagaatctcc aatagangga ctgarcmstt 480
gctnanaaaa aaaaanaaaa aa 502

```

```

<210> 196
<211> 665
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(665)
<223> n = A,T,C or G

```

```

<400> 196
ggttacttgg ttctattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc 60
cctctggaag ccttgccgag agcggacttt gtaattgttg gagaataact gctgaatttt 120
wagctgtttk gagttgatts gcaccactgc acccacaact tcaatatgaa aacyawttga 180
actwatttat tatcttgtga aaagtataac aatgaaaatt ttgttcatac tgtattkac 240

```

```

aagtatgatg aaaagcaawa gatatatatt cttttattat gttaaattat gattgccatt 300
attaatcggc aaaatgtgga gtgtatgttc ttttcacagt aatatatgcc ttttgtaact 360
tcacttgggtt atttttattgt aaatgartta caaaattctt aatttaagar aatgggtatgt 420
watattttatt tcattaattt ctttcctkgt ttacgtwaat tttgaaaaga wtgcatgatt 480
tcttgacaga aatcgatctt gatgctgtgg aagtagtttg acccacatcc ctatgagttt 540
ttcttagaat gtataaagggt tgtagcccat cnaacttcaa agaaaaaaat gaccacatac 600
tttgcaatca ggctgaaatg tggcatgctn ttctaattcc aactttataa actagcaaan 660
aagtg 665

```

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(492)

<223> n = A,T,C or G

<400> 197

```

tttntttttt ttttttttgc aggaaggatt ccattttattg tggatgcatt ttcacaatat 60
atgttttattg gagcgatcca ttatcagtga aaagtatcaa gtgtttataa natttttagg 120
aaggcagatt cacagaacat gctngtcngc ttgcagtttt acctcgtana gatnacagag 180
aatttatagtc naaccagtaa acnaggaatt tacttttcaa aagattaaat ccaaactgaa 240
caaaattcta ccctgaaact tactccatcc aaatattgga ataanagtca gcagtgatac 300
attctcttct gaactttaga ttttctagaa aaatatgtaa tagtgatcag gaagagctct 360
tgttcaaaaag tacaacnaag caatgttccc ttaccatagg ccttaattca aactttgatc 420
catttcactc ccatacaggg agtcaatgct acctgggaca cttgtatttt gttcatnctg 480
ancntggctt aa 492

```

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(478)

<223> n = A,T,C or G

<400> 198

```

tttnttttgn atttcantct gtannaanta ttttcattat gtttattana aaaatatnaa 60
tgtntccacn acaaatcatn ttacntnagt aagaggccan ctacattgta caacatacac 120
tgagtatatt ttgaaaagga caagttaaata gtanacncat attgccganc atancacatt 180
tatacatggc ttgattgata tttagcacag canaaactga gtgagttacc agaaanaaat 240
natatatgtc aatcngattt aagatacaaaa acagatccta tggtagatan catcntgtag 300
gagttgtggc tttatgttta ctgaaagtca atgcagttcc tgtacaaaaga gatggccgta 360
agcattctag tacctctact ccatgggtaa gaatcgtaca cttatgttta catatgtntca 420
gggtaagaat tgtgttaagt naanttatgg agaggtccan gagaaaaatt tgatncaa 478

```

<210> 199

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(482)

<223> n = A,T,C or G

<400> 199

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agtgacttgt cctccaacaa aacccttga tcaagtttgt ggcaactgaca atcagaccta 60

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tgctagttcc	tgtcatctat	tcgctactaa	atgcagactg	gagggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaattctatt	cctacttgta	cggactttga	180
agtgattcag	tttcctctac	ggatgagaga	ctgggtcaag	aatatcctca	tgcagcttta	240
tgaagccnac	tctgaacacg	ctgggttatct	nagatgagaa	ncagagaaat	aaagtcnaga	300
aaattttacct	ggangaaaaag	aggcttttngg	ctggggacca	tcccattgaa	cctttctctta	360
anggacttta	agaanaaaact	accacatgtn	tgtngtatcc	tggtgccnng	ccgtttantg	420
aacntngacn	ncacccttnt	ggaatanant	cttgacngcn	tcctgaactt	gctcctctgc	480
ga						482

<210> 200

<211> 270

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(270)

<223> n = A,T,C or G

<400> 200

cggccgcaag	tgcaactcca	gctggggccg	tgcggacgaa	gattctgcca	gcagttgggtc	60
cgactgcgac	gacggcgggc	gcgacagtcg	caggtgcagc	gcgggcgcct	ggggtcttgc	120
aaggctgagc	tgacgccgca	gaggtcgtgt	cacgtccac	gaccttgacg	ccgtcgggga	180
cagccggaac	agagcccggg	gaangcggga	ggcctcgggg	agcccctcgg	gaagggcgcc	240
ccgagagata	cgcaggtgca	ggtggccgcc				270

<210> 201

<211> 419

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(419)

<223> n = A,T,C or G

<400> 201

tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaagt	ttatttttgca	60
gctagcaagg	taacagggtg	gggcatgggt	acatgttcag	gtcaacttcc	tttgtcgtgg	120
ttgattgggt	tgtctttatg	ggggcggggt	ggggtagggg	aaancgaagc	anaantaaca	180
tggagtgggt	gcaccctccc	tgtagaacct	ggttacnaaa	gcttggggga	gttcacctgg	240
tctgtgaccg	tcattttctt	gacatcaatg	ttattagaag	tcaggatata	tttttagagag	300
tccactgtnt	ctggagggag	attaggggtt	cttgccaana	tcnaancaaa	atccacntga	360
aaaagtggga	tgatncangt	acngaatacc	ganggcatan	ttctcatant	cggtggcca	419

<210> 202

<211> 509

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(509)

<223> n = A,T,C or G

<400> 202

ttnttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggcacttaa	tccattttta	tttcaaaatg	tctacaaant	ttnaatncnc	cattatacng	120
gtnattttnc	aaaatctaaa	nnttattcaa	atntnagcca	aantccttac	ncaaatnnaa	180
tacnncnaaa	aatcaaaaaa	atacntntct	ttcagcaaac	ttngttacat	aaattaaaaa	240
aatatatacg	gctgggtgtt	tcaaagtaca	attatcttaa	cactgcaaac	atntttnnaa	300
ggaactaaaa	taaaaaaaaa	cactnccgca	aagggttaaa	ggaacaacaa	attcntttta	360

caacancnnc nattataaaa atcatatctc aaatcttagg ggaatatata cttcacacng	420
ggatcttaac ttttactnca ctttgtttat ttttttanaa ccattgtntt gggcccaaca	480
caatggnaat nccnccnncn tggactagt	509

<210> 203

<211> 583

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(583)

<223> n = A,T,C or G

<400> 203

tttttttttt ttttttttga cccccctctt ataaaaaaca agttaccatt ttatttttact	60
tacacatatt tattttataa ttggtatttag atattcaaaa ggcagctttt aaaatcaaac	120
taaatggaaa ctgccttaga tacataattc ttaggaatta gcttaaaatc tgcctaaagt	180
gaaaatcttc tctagctctt ttgactgtaa atttttgact cttgtaaaaac atccaaattc	240
atttttcttg tctttaaaaat tatctaattc ttccattttt tccctattcc aagtcaattt	300
gcttctctag cctcatttcc tagctcttat ctactatttag taagtggctt ttttcctaaa	360
agggaaaaca ggaagagana atggcacaca aaacaaacat tttatattca tatttctacc	420
tacgttaata aaatagcatt ttgtgaagcc agctcaaaag aaggcttaga tccttttatg	480
tccatttttag tcactaaacg atatcnaaag tgccagaatg caaaagggtt gtgaacattt	540
attcaaaagc taatataaga tatttcacat actcatcttt ctg	583

<210> 204

<211> 589

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(589)

<223> n = A,T,C or G

<400> 204

ttttttttnt tttttttttt ttttttntct ttcttttttt ttganaatga ggatcgagtt	60
tttcaactct tagatagggc atgaagaaaa ctcatctttc cagcttttaa ataacaatca	120
aatctcttat gctatatcat attttaagtt aaactaatga gtcactggct tatcttctcc	180
tgaaggaaaat ctgttcattc ttctcattca tatagttata tcaagtacta ccttgcatat	240
tgagagggtt ttcttctcta ttacacata tatttccatg tgaatttgta tcaaaccctt	300
attttcatgc aaactagaaa ataatgtntt cttttgcata agagaagaga acaatatnag	360
cattacaaaa ctgctcaaat tgtttgtaa gnttatccat tataattagt tnggcaggag	420
ctaatacaaa tcacatttac ngacnagcaa taataaaaact gaagtaccag ttaaatatcc	480
aaaataatta aaggaacatt tttagcctgg gtataattag ctaattcact ttacaagcat	540
ttattnagaa tgaattcaca tgttattatt cntagccca acacaatgg	589

<210> 205

<211> 545

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(545)

<223> n = A,T,C or G

<400> 205

ttttnttttt ttttttcagt aataatcaga acaatattta tttttatatt taaaattcat	60
agaaaagtgc cttacattta ataaaagttt gtttctcaaa gtgatcagag gaattagata	120
tngtcttgaa caccaatatt aatttgagga aaatacacca aaatacatta agtaaattat	180

ttaagatcat	agagcttgta	agtgaaaaga	taaaatttga	cctcagaaac	tctgagcatt	240
aaaaatccac	tattagcaaa	taaattacta	tggacttctt	gctttaattt	tgtgatgaat	300
atgggggtgtc	actggtaaac	caacacattc	tgaaggatac	attacttagt	gatagattct	360
tatgtacttt	gctanatnac	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aaggggcnga	ngaaatgagg	aagaaaagaa	aaggattacg	catactgttc	tttctatngg	480
aaggattaga	tatgtttcct	ttgccaatat	taaaaaata	ataatgttta	ctactagtga	540
aacc						545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttttagtc	aagtttctna	tttttattat	aattaaagtc	ttggtcattt	60
cattttattag	ctctgcaact	tacatatatta	aattaaagaa	acgttnttag	acaactgtna	120
caattttataa	atgtaagggtg	ccattattga	gtanatata	tcctccaaga	gtggatgtgt	180
cccttctccc	accaactaat	gaancagcaa	cattagttaa	attttattag	tagatnatac	240
actgctgcaa	acgctaattc	tcttctccat	ccccatgtng	atattgtgta	tatgtgtgag	300
ttggtnagaa	tgcatacanca	atctnacaat	caacagcaag	atgaagctag	gcntgggctt	360
tcggtgaaaa	tagactgtgt	ctgtctgaat	caaatgatct	gacctatcct	cggtggcaag	420
aactcttcga	accgcttcct	caaaggcngc	tgccacattt	gtggcntctn	ttgcacttgt	480
ttcaaaa						487

<210> 207

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 207

tgaattggct	aaaagactgc	atttttanaa	ctagcaactc	ttattttcttt	ccttttaaaaa	60
tacatagcat	taaattccaa	atcctattta	aagacctgac	agcttgagaa	ggtcactact	120
gcattttatag	gaccttctgg	tggttctgct	gttacntttg	aantctgaca	atccttgana	180
atctttgcat	gcagaggagg	taaaagggtat	tggtttttca	cagaggaana	acacagcgca	240
gaaatgaagg	ggccaggctt	actgagcttg	tccactggag	ggctcatggg	tgggacatgg	300
aaaagaaggc	agcctaggcc	ctggggagcc	ca			332

<210> 208

<211> 524

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(524)

<223> n = A,T,C or G

<400> 208

agggcgtggt	gcgaggggcg	ttactgtttt	gtctcagtaa	caataaatac	aaaaagactg	60
gttggtgtcc	ggccccatcc	aaccacgaag	ttgatttctc	ttgtgtgcag	agtgactgat	120
tttaaaggac	atggagcttg	tcacaatgtc	acaatgtcac	agtgtgaagg	gcacactcac	180
tcccgcgtga	ttcacattta	gcaaccaaca	atagctcatg	agtcatact	tgtaaatact	240

tttggcagaa tacttnttga aacttgcaga.tgataactaa gatccaagat atttcccaaa	300
gtaaatagaa gtgggtcata atattaatta cctgttcaca tcagcttcca tttacaagtc	360
atgagccag acactgacat caaactaagc ccacttagac tcctcaccac cagtctgtcc	420
tgatcatcaga caggaggctg tcaccttgac caaattctca ccagtcaatc atctatccaa	480
aaaccattac ctgatccact tccggtaatg caccaccttg gtga	524

<210> 209

<211> 159

<212> DNA

<213> Homo sapien

<400> 209

gggtgaggaa atccagagtt gccatggaga aaattccagt gtcagcattc ttgctccttg	60
tggccctctc ctacactctg gccagagata ccacagtcaa acctggagcc aaaaaggaca	120
caaaggactc tcgacccaaa ctgccccaga ccctctcca	159

<210> 210

<211> 256

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(256)

<223> n = A,T,C or G

<400> 210

actccctggc agacaaaaggc agaggagaga gctctgttag ttctgtgttg ttgaactgcc	60
actgaatttc tttccacttg gactattaca tgccanttga gggactaatg gaaaaacgta	120
tggggagatt ttanccaatt tangtntgta aatggggaga ctggggcagg cgggagagat	180
ttgcagggtg naaatgggan ggctggtttg ttanatgaac agggacatag gaggtaggca	240
ccaggatgct aaatca	256

<210> 211

<211> 264

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(264)

<223> n = A,T,C or G

<400> 211

acattgtttt tttgagataa agcattgaga gagctctcct taacgtgaca caatggaagg	60
actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt	120
atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gttaaggaga	180
ggggagatac attcngaaag aggactgaaa gaaataactca agtnggaaaa cagaaaaaga	240
aaaaaaggag caaatgagaa gcct	264

<210> 212

<211> 328

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(328)

<223> n = A,T,C or G

<400> 212

acccaaaaat ccaatgctga atatttggtc tcattattcc canattcttt gattgtcaaa	60
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ggatttaatg	ttgtctcagc	ttgggcactt	cagttaggac	ctaaggatgc	cagccggcag	120
gtttatatat	gcagcaacaa	tattcaagcg	cgacaacagg	ttattgaact	tgcccgccag	180
ttnaatttca	ttcccattga	cttgggatcc	ttatcatcag	ccagagagat	tgaaaattta	240
cccctacnac	tctttactct	ctgganaggg	ccagtgggtg	tagctataag	cttggccaca	300
tttttttttc	ctttattcct	ttgtcaga				328

<210> 213

<211> 250

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(250)

<223> n = A,T,C or G

<400> 213

acttatgagc	agagcgacat	atccnagtgt	agactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acatttcaat	tctccaaact	tcttctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataanc	catgttaana	aacaaatata	tctctnacct	240
tctcatcggt						250

<210> 214

<211> 444

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(444)

<223> n = A,T,C or G

<400> 214

accagaatc	caatgctgaa	tatttggtt	cattattccc	agattctttg	attgtcaaag	60
gatttaaatg	tgtctcagct	tgggcacttc	agttaggacc	taaggatgcc	agccggcagg	120
tttatatatg	cagcaacaat	attcaagcgc	gacaacaggt	tattgaactt	gcccggcagg	180
tgaatttcat	tcccattgac	ttgggatcct	tatcatcagc	canagagatt	gaaaatttac	240
ccctacgact	ctttactctc	tggagagggc	cagtgggtgt	agctataagc	ttggccacat	300
ttttttttcc	tttattcctt	tgtcagagat	gcgattcctc	catatgctan	aaaccaacag	360
agtgactttt	acaaaattcc	tataganatt	gtgaataaaa	ccttacctat	agttgccatt	420
actttgtctc	ccctaataata	cctc				444

<210> 215

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(366)

<223> n = A,T,C or G

<400> 215

acttatgagc	agagcgacat	atccaagtgt	anactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acatttcaat	tctccaaact	tcttctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataagc	catgttgaga	aacaaatata	tctctgacct	240
tctcatcggt	aagcagaggg	tgtaggcaac	atggaccata	gcgaanaaaa	aacttagtaa	300
tccaagctgt	tttctacact	gtaaccaggt	ttccaaccaa	ggtggaaatc	tcctatactt	360
ggtgcc						366

<210> 216
 <211> 260
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(260)
 <223> n = A,T,C or G

<400> 216
 ctgtataaac agaactccac tgcangaggg agggccgggc caggagaatc tccgcttgtc 60
 caagacaggg gcctaaggag ggtctccaca ctgctnntaa gggctnttnc atttttttat 120
 taataaaaag tnnaaaaggc ctcttctcaa cttttttccc ttinggctgga aaatttaaaa 180
 atcaaaaatt tcctnaagtt ntcaagctat catatatact ntatcctgaa aaagcaacat 240
 aattcttctt tccctccttt 260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(262)
 <223> n = A,T,C or G

<400> 217
 acctacgtgg gtaagtttan aaatgttata atttcaggaa naggaacgca tataattgta 60
 tcttgcttat aattttctat ttttaataagg aaatagcaaa ttgggggtggg gggaatgtag 120
 ggcattctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaaaaatttt 180
 atgaataatc tgtatgatta tatgtctcta gagtagattt ataattagcc acttacccta 240
 atatccttca tgcttgtaaa gt 262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(205)
 <223> n = A,T,C or G

<400> 218
 accaaggtag tgcattaccg gaantggatc aangacacca tctgtggccaa cccctgagca 60
 cccctatcaa ctcccttttg tagtaaaactt ggaaccttgg aaatgaccag gccaaagactc 120
 aggcctcccc agttctactg acctttgtcc ttangtntna ngtccagggt tgctaggaaa 180
 anaaatcagc agacacaggt gtaaa 205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219
 tactgttttg tctcagtaac aataaatata aaaagactgg ttgtgttccg gccccatcca 60
 accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tggg 114

<210> 220
 <211> 93
 <212> DNA

<213> Homo sapien

<400> 220

actagccagc	acaaaaggca	gggtagcctg	aattgctttc	tgctctttac	atttctttta	60
aaataagcat	ttagtgctca	gtccctactg	agt			93

<210> 221

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 221

actangtgca	ggtgcgca	aatatttgct	gatattccct	tcattcttga	ttccatgagg	60
tcttttgccc	agcctgtggc	tctactgtag	taagtttctg	ctgatgagga	gccagnatgc	120
ccccactac	cttccctgac	gctcccccana	aatcacccaa	cctctgt		167

<210> 222

<211> 351

<212> DNA

<213> Homo sapien

<400> 222

agggcgtggt	gcggaggcg	gtactgacct	cattagtagg	aggatgcatt	ctggcacccc	60
gttcttcacc	tgtcccccaa	tccttaaaaag	gccatactgc	ataaagtcaa	caacagataa	120
atgtttgctg	aattaaagga	tgatgaaaaa	aaattaataa	tgaatttttg	cataatccaa	180
ttttctcttt	tatatttcta	gaagaagttt	ctttgagcct	attagatccc	gggaatcttt	240
taggtgagca	tgattagaga	gcttgtaggt	tgctttttaca	tatatctggc	atatttgagt	300
ctcgtatcaa	aacaatagat	tggtaaaggt	ggtattattg	tattgataag	t	351

<210> 223

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 223

aaaacaaaca	aacaaaaaaa	acaattcttc	attcagaaaa	attatcttag	ggactgatat	60
tggttaattat	ggtcaattta	atwrttrttk	ggggcatttc	cttacattgt	cttgacaaga	120
ttaaaatgtc	tgtgccaaaa	ttttgtattt	tatttggaga	cttcttatca	aaagtaatgc	180
tgccaaagga	agtctaagga	attagtagtg	ttcccmctac	ttgtttggag	tgtgctattc	240
taaaagattt	tgatttcctg	gaatgacaat	tatatattta	ctttgggtggg	ggaaanagtt	300
ataggaccac	agtccttact	tctgatactt	gtaaattaat	cttttattgc	acttgttttg	360
accattaagc	tatatgttta	aaa				383

<210> 224

<211> 320

<212> DNA

<213> Homo sapien

<400> 224

cccctgaagg	cttcttggtta	gaaaatagta	cagttacaac	caataggaac	aacaaaaaga	60
aaaagtgtgt	gacattgtag	tagggagtgt	gtacccttta	ctcccatca	aaaaaaaaat	120
ggatacatgg	ttaaaggata	raagggcaat	attttatcat	atgttctaaa	agagaaggaa	180

gagaaaaatac	tactttctcr	aaatggaagc	ccttaaaggt	gctttgatac	tgaaggacac	240
aaatgtggcc	gtccatcctc	ctttaragtt	gcatgacttg	gacacggtaa	ctggtgcagt	300
tttaractcm	gcattgtgac					320

<210> 225
 <211> 1214
 <212> DNA
 <213> Homo sapien

<400> 225

gaggactgca	gcccgcactc	gcagccctgg	caggcgggcac	tggatcatgga	aaacgaattg	60
ttctgctcgg	gcgtcctggt	gcatccgcag	tgggtgctgt	cagccgcaca	ctggttccag	120
aactcctaca	ccatcgggct	gggcctgcac	agtcttgagg	ccgaccaaga	gccagggagc	180
cagatgggtg	aggccagcct	ctccgtacgg	cacccagagt	acaacagacc	cttgctcgct	240
aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	agtctgacac	catccggagc	300
atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	gcctcgtttc	tggctggggg	360
ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	tgaacgtgtc	ggtggtgtct	420
gaggaggtct	gcagtaagct	ctatgaccgg	ctgtaccacc	ccagcatgtt	ctgcgccggc	480
ggagggcaag	accagaagga	ctcctgcaac	ggtgactctg	gggggcccct	gatctgcaac	540
gggtacttgc	agggccttgc	gtctttcgga	aaagccccgt	gtggccaagt	tggcgtgcca	600
ggtgtctaca	ccaacctctg	ca'aattcact	gagtggatag	agaaaaccgt	ccaggccagt	660
taactctggg	gactgggaac	ccatgaaatt	gacccccaaa	tacatcctgc	ggaaggaatt	720
caggaatata	tgttcccagc	ccctcctccc	tcaggcccgag	gagtccaggc	ccccagcccc	780
tcctccctca	aaccaagggt	acagatcccc	agcccctcct	ccctcagacc	caggagtcca	840
gacccccccag	cccctcctcc	ctcagaccca	ggagtccagc	ccctcctccc	tcagaccag	900
gagtccagac	ccccagccc	ctcctccctc	agaccagagg	gtccaggccc	ccaacccctc	960
ctccctcaga	ctcagagggt	caagccccca	acccctcctt	ccccagaccc	agaggtccag	1020
gtcccagccc	ctcctccctc	agaccagcgg	gtccaatgcc	acctagactc	tcctgtaca	1080
cagtgcctcc	ttgtggcacg	ttgacccaac	cttaccagtt	ggtttttcat	tttttgtccc	1140
tttcccttag	atccagaaat	aaagtctaag	agaagcgcaa	aaaaaaaaaa	aaaaaaaaaa	1200
aaaaaaaaaa	aaaa					1214

<210> 226
 <211> 119
 <212> DNA
 <213> Homo sapien

<400> 226

accagtatg	tgacgggaga	cggaacccca	tgtgacagcc	cactccacca	gggttcccaa	60
agaacctggc	ccagtcataa	tcattcatcc	tgacagtggc	aataatcacg	ataaccagt	119

<210> 227
 <211> 818
 <212> DNA
 <213> Homo sapien

<400> 227

acaattcata	gggacgacca	atgaggacag	ggaatgaacc	cggctctccc	ccagccctga	60
tttttgctac	atatggggtc	ccttttcatt	ctttgcaaaa	acactgggtt	ttctgagaac	120
acggacgggt	cttagcacia	tttgtgaaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aaggtggtga	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaagcca	cgctcgccct	tctctgaacc	aggatggaac	ggcagacccc	tgaaaacgaa	300
gcttgtcccc	ttccaatcag	ccacttctga	gaacccccat	ctaacttctc	actggaaaag	360
agggcctcct	caggagcagt	ccaagagttt	tcaaagataa	cgtgacaact	accatctaga	420
ggaaagggtg	caccctcagc	agagaagccg	agagcttaac	tctggctcgt	tccagagaca	480
acctgctggc	tgtcttggtg	tgcgcccagc	ctttgagagg	ccactacccc	atgaacttct	540
gccatccact	ggacatgaag	ctgaggacac	tgggcttcaa	cactgagttg	tcagagagg	600
gacaggctct	ggcctcaagc	cggctgaggg	cagcaaccac	tctcctcccc	tttctcacgc	660
aaagccattc	ccacaaatcc	agaccatacc	atgaagcaac	gagacccaaa	cagtttggct	720
caagaggata	tgaggactgt	ctcagcctgg	ctttgggctg	acaccatgca	cacacacaag	780
gtccacttct	aggttttcag	cctagatggg	agtcgtgt			818

<210> 228
 <211> 744
 <212> DNA
 <213> Homo sapien

<400> 228
 actggagaca ctgttgaact tgatcaagac ccagaccacc ccaggtctcc ttcgtgggat 60
 gtcattgacgt ttgacatacc tttggaacga gcctcctcct tggaagatgg aagaccgtgt 120
 tcgtggccga cctggcctct cctggcctgt ttcttaagat gcggagtcac atttcaatgg 180
 taggaaaagt ggcttcgtaa aatagaagag cagtcactgt ggaactacca aatggcgaga 240
 tgctcggtgc acattgggggt gctttgggat aaaagattta tgagccaact attctctggc 300
 accagattct aggccagttt gttccactga agcttttccc acagcagtcc acctctgcag 360
 gctggcagct gaattggcttg ccggtggctc tgtggcaaga tcacactgag atcgatgggt 420
 gagaaggcta ggatgcttgt ctagtgttct tagctgtcac gttggctcct tccaggttgg 480
 ccagacgggtg ttggccactc ccttctaaaa cacaggcgcc ctctgggtga cagtgaacctg 540
 ccgtgggtatg ccttggccca ttccagcagt cccagttatg catttcaagt ttgggggttg 600
 ttcttttctg taatgttctt ctgtgttgtc agctgtcttc atttctggg ctaagcagca 660
 ttgggagatg tggaccagag atccactcct taagaaccag tggcgaaaga cactttcttt 720
 cttcactctg aagtagctgg ttgt 744

<210> 229
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 229
 cgagtctggg ttttgtctat aaagtttgat ccctcctttt ctcatccaaa tcatgtgaac 60
 cattacacat cgaaataaaa gaaaggtggc agacttgccc aacgccaggc tgacatgtgc 120
 tgcagggttg ttgtttttta attattattg ttgaaacgt caccacagc ccctgttaat 180
 ttgtatgtga cagccaactc tgagaaggtc ctatttttcc acctgcagag gatccagtct 240
 cactaggctc ctcttgccc tcacactgga gtctccgcca gtgtgggtgc ccactgacat 300

<210> 230
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 230
 cagcagaaca aatacaaata tgaagagtgc aaagatctca taaaatctat gctgaggaat 60
 gagcgacagt tcaaggagga gaagcttgca gagcagctca agcaagctga ggagctcagg 120
 caatataaag tcctggttca cactcaggaa cgagagctga cccagttaag ggagaagttg 180
 cgggaaaggga gagatgcttc cctctcattg aatgagcatc tccaggccct cctcactccg 240
 gatgaaccgg acaagtccca ggggcaggac ctccaagaaa cagacctcgg ccgcgaccac 300
 g 301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231
 gcaagcacgc tggcaaactc ctgtcaggtc agctccagag aagccattag tcatttttagc 60
 caggaactcc aagtccacat ccttggcaac tggggacttg cgcagggttag ccttgaggat 120
 ggcaacacgg cacttctcat caggaagtgg gatgtagat agctgatcaa gacggccagg 180
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggtg ccgccaatga tgaacacatt 240
 tttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcagc 300
 c 301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232

agtaggtatt	tcgtgagaag	ttcaacacca	aaactggaac	atagttctcc	ttcaagtgtt	60
ggcgacagcg	gggcttcctg	attctggaat	ataactttgt	gtaaattaac	agccacctat	120
agaagagtcc	atctgctgtg	aaggagagac	agagaactct	gggttccgtc	gtcctgtcca	180
cgtgctgtac	caagtgtctg	tgccagcctg	ttacctgttc	tactgaaaa	tctggctaata	240
gctcttgtgt	atcacttctg	attctgacaa	tcaatcaatc	aatggcctag	agcactgact	300
g						301

<210> 233

<211> 301

<212> DNA

<213> Homo sapien

<400> 233

atgactgact	tcccagtaag	gctctctaag	gggtaagtag	gaggatccac	aggatttgag	60
atgctaaggc	cccagagatc	gtttgatcca	accctcttat	tttcagaggg	gaaaatgggg	120
cctagaagtt	acagagcatc	tagctggtgc	gctggcacc	ctggcctcac	acagactccc	180
gagtagctgg	gactacaggc	acacagtcac	tgaagcaggc	cctgttagca	attctatgcg	240
tacaaattaa	catgagatga	gtagagactt	tattgagaaa	gcaagagaaa	atcctatcaa	300
c						301

<210> 234

<211> 301

<212> DNA

<213> Homo sapien

<400> 234

aggtcctaca	catcgagact	catccatgat	tgatatgaat	ttaaaaatta	caagcaaaga	60
cattttattc	atcatgatgc	tttcttttgt	ttcttctttt	cgttttcttc	tttttctttt	120
tcaatttcag	caacatactt	ctcaatttct	tcaggattta	aaatcttgag	ggattgatct	180
cgctcatga	cagcaagttc	aatgtttttg	ccacctgact	gaaccacttc	caggagtgcc	240
ttgatcacca	gcttaatggt	cagatcatct	gcttcaatgg	cttcgtcagt	atagttcttc	300
t						301

<210> 235

<211> 283

<212> DNA

<213> Homo sapien

<400> 235

tggggctgtg	catcaggcgg	gtttgagaaa	tattcaattc	tcagcagaag	ccagaatttg	60
aattccctca	tcttttaggg	aatcattttac	caggtttgga	gaggattcag	acagctcagg	120
tgctttcact	aatgtctctg	aacttctgtc	cctctttgtt	catggatagt	ccaataaata	180
atgttatctt	tgaactgatg	ctcataggag	agaatataag	aactctgagt	gatatcaaca	240
ttagggattc	aaagaaatat	tagatttaag	ctcacactgg	tca		283

<210> 236

<211> 301

<212> DNA

<213> Homo sapien

<400> 236

aggtcctcca	ccaactgcct	gaagcacggg	taaaattggg	aagaagtata	gtgcagcata	60
aatactttta	aatcgatcag	atttccctaa	cccacatgca	atcttcttca	ccagaagagg	120
tcggagcagc	atcattaata	ccaagcagaa	tgcgtaatag	ataaatacaa	tggtatatag	180
tgggtagacg	gcttcatgag	tacagtgtac	tgtggtatcg	taatctggac	ttgggttgta	240
aagcatcgtg	taccagtcag	aaagcatcaa	tactcgacat	gaacgaatat	aaagaacacc	300
a						301

<210> 237

<211> 301

<212> DNA

<213> Homo sapien

<400> 237

cagtggtagt	ggtgggtggac	gtggcgttgg	tcgtgggtgcc	ttttttggtg	cccgtcacaa	60
actcaatttt	tgttcgctcc	tttttggcct	tttccaattt	gtccatctca	attttctggg	120
ccttggctaa	tgctcatag	taggagtcct	cagaccagcc	atggggatca	aacatatacct	180
ttgggtagtt	ggtgccaagc	tcgtcaatgg	cacagaatgg	atcagcttct	cgtaaatacta	240
gggttccgaa	attctttctt	cctttggata	atgtagttca	tatocattcc	ctcctttatc	300
t						301

<210> 238

<211> 301

<212> DNA

<213> Homo sapien

<400> 238

gggcaggttt	tttttttttt	ttttttgatg	gtgcagaccc	ttgctttatt	tgtctgactt	60
gttcacagtt	cagccccctg	ctcagaaaaac	caacggggcca	gctaaggaga	ggaggaggca	120
ccttgagact	tccggagtcg	aggctctcca	gggttcccca	gccatcaat	cattttctgc	180
acccccctgcc	tgggaagcag	ctccctgggg	ggtgggaatg	ggtgactaga	agggatttca	240
gtgtgggacc	cagggtctgt	tcttcacagt	aggaggtgga	agggatgact	aatttcttta	300
t						301

<210> 239

<211> 239

<212> DNA

<213> Homo sapien

<400> 239

ataagcagct	agggaattct	ttatttagta	atgtcctaac	ataaaaagttc	acataactgc	60
ttctgtcaaa	ccatgatact	gagctttgtg	acaaccacga	aataactaag	agaaggcaaa	120
cataatacct	tagagatcaa	gaaacattta	cacagttcaa	ctgtttaaaa	atagctcaac	180
attcagccag	tgagtagagt	gtgaatgcca	gcatacacag	tatacaggtc	cttcaggga	239

<210> 240

<211> 300

<212> DNA

<213> Homo sapien

<400> 240

ggtcctaagt	aagcagcagc	ttccacattt	taacgcaggt	ttacgggtgat	actgtccttt	60
gggatctgcc	ctccagtgga	accttttaag	gaagaagtgg	gccaagcta	agttccacat	120
gctgggtgag	ccagatgact	tctgttcctt	ggtcactttc	ttcaatgggg	cgaatggggg	180
ctgccaggtt	tttaaaatca	tgcttcatct	tgaagcacac	ggtcacttca	ccctcctcac	240
gctgtgggtg	tactttgatg	aaaataccca	ctttgttggc	ctttctgaag	ctataatgtc	300

<210> 241

<211> 301

<212> DNA

<213> Homo sapien

<400> 241

gaggtctggt	gctgaggtct	ctgggctagg	aagaggagtt	ctgtggagct	ggaagccaga	60
cctcttttga	ggaaactcca	gcagctatgt	tggtgtctct	gaggggaatgc	aacaaggctg	120
ctcctccatg	tattggaaaa	ctgcaaaactg	gactcaactg	gaagggaagtg	ctgctgccag	180
tgtaagaac	cagcctgagg	tgacagaaac	ggaagcaaac	aggaacagcc	agtcttttct	240
tcctcctcct	gtcatacggt	ctctctcaag	catcctttgt	tgtcaggggc	ctaaaaggga	300
g						301

<210> 242

<211> 301

<212> DNA

<213> Homo sapien

<400> 242

ccgagggtcct	gggatgcaac	caatcactct	gtttcacgtg	acttttatca	ccatacaatt	60
tgtggcattt	cctcattttc	tacattgtag	aatcaagagt	gtaaataaat	gtatatcgat	120
gtcttcaaga	atataatcatt	cctttttcac	tagaaccat	tcaaaatata	agtcaagaat	180
cttaatatca	acaaatata	caagcaaact	ggaaggcaga	ataactacca	taatttagta	240
taagtacca	aagttttata	aatcaaaagc	cctaatagata	accattttta	gaattcaatc	300
a						301

<210> 243

<211> 301

<212> DNA

<213> Homo sapien

<400> 243

aggtaagtc	cagtttgaag	ctcaaaagat	ctggtatgag	cataggctca	tcgacgacat	60
ggtggcccaa	gctatgaaat	cagagggagg	cttcactctg	gcctgtaaaa	actatgatgg	120
tgacgtgcag	tggactctg	tggcccaagg	gtatggctct	ctcgcatga	tgaccagcgt	180
gctggtttgt	ccagatggca	agacagtaga	agcagaggct	gccacggga	ctgtaaccgc	240
tcactaccgc	atgttccaga	aaggacagga	gacgtccacc	aatcccattg	cttccatttt	300
t						301

<210> 244

<211> 300

<212> DNA

<213> Homo sapien

<400> 244

gctggtttgc	agaatgaaa	tgaatgattc	tacagctagg	acttaacctt	gaaatggaaa	60
gtcatgcaat	cccatttgca	ggatctgtct	gtgcacatgc	ctctgtagag	agcagcattc	120
ccagggacct	tggaacagt	tgacactgta	aggtgcttgc	tccccaagac	acatccctaa	180
aggtgttgta	atggtgaaaa	cgtcttcctt	ctttattgcc	ccttcttatt	tatgtgaaca	240
actgtttgtc	ttttgtgtat	cttttttaaa	ctgtaaagtt	caattgtgaa	aatgaatatc	300

<210> 245

<211> 301

<212> DNA

<213> Homo sapien

<400> 245

gtctgagtat	ttaaaatggt	attgaaatta	tccccaacca	atgttagaaa	agaaagaggt	60
tatatactta	gataaaaaat	gaggtgaatt	actatccatt	gaaatcatgc	tcttagaatt	120
aaggccagga	gatattgtca	ttaatgtara	cttcaggaca	ctagagtata	gcagccctat	180
gttttcaaag	agcagagatg	caattaaata	ttgttttagca	tcaaaaaggc	cactcaatac	240
agctaataaa	atgaaagacc	taatttctaa	agcaattcct	tataatttac	aaagttttta	300
g						301

<210> 246

<211> 301

<212> DNA

<213> Homo sapien

<400> 246

ggtctgtcct	acaatgcctg	cttcttgaaa	gaagtcggca	ctttctagaa	tagctaaata	60
acctgggctt	attttaaaga	actatttgta	gtcagattg	gttttcctat	ggctaaaata	120
agtgtctctt	gtgaaaatta	aataaaacag	ttaattcaaa	gccttgatat	atgttaccac	180
taacaatcat	actaaatata	ttttgaagta	caaagtttga	catgctctaa	agtgcacaacc	240
caaagtgtgc	ttacaaaaca	cgttcctaac	aaggatatgt	ttacactacc	aatgcagaaa	300
c						301

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247
 aggtcctttg gcagggctca tggatcagag ctcaaactgg agggaaaggc atttcgggta 60
 gcctaagagg gcgactggcg gcagcacaac caaggaaggc aagggtgttt cccccacgct 120
 gtgtcctgtg ttcaggtgcg acacacaatc ctcatgggaa caggatcacc catgcgctgc 180
 ccttgatgat caaggttggg gcttaagtgg attaaggag gcaagttctg gggtccttgc 240
 cttttcaaac catgaagtca ggctctgtat ccctcctttt cctaactgat attctaacta 300
 a 301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttcggaagta caccctcact 60
 attaggaaga tctttagggg taatttttct gaggaaggag aactagccaa cttaagaatt 120
 acaggaagaa agtggtttgg aagacagcca aagaaataaa agcagattaa attgtatcag 180
 gtacattcca gcctgttggc aactccataa aaacatttca gatttttaatc ccgaatttag 240
 ctaatgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaaaa actcagttcc 300
 c 301

<210> 249
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 249
 gtccagagga agcacctggt gctgaactag gcttgccctg ctgtgaactt gcacttggag 60
 ccctgacgct gctgttctcc ccgaaaaacc cgaccgacct ccgcatctc cgtcccgcgc 120
 ccaggagagac acagcagtga ctcatagctg gtcgcacact gtgcctccct cctcaccgcc 180
 catcgtaatg aattattttg aaaattaatt ccaaccatct ttcagattct ggatggaaag 240
 actgaatctt tgactcagaa ttgtttgctg aaaagaatga tgtgactttc ttagtcattt 300
 a 301

<210> 250
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 250
 ggtctgtgac aaggacttgc aggctgtggg aggcaagtga cccttaacac tacacttctc 60
 cttatcttta ttggcttgat aaacataatt atttctaaca ctagcttatt tccagttgcc 120
 cataagcaca tcagtacttt tctctggctg gaatagtaaa cttaaagtatg gtacatctac 180
 ctaaaagact actatgtgga ataatacata ctaatgaagt attacatgat ttaaagacta 240
 caataaaacc aaacatgctt ataacattaa gaaaaacaat aaagatacat gattgaaacc 300
 a 301

<210> 251
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 251
 gccgaggtcc tacatttggc ccagtttccc cctgcacctc ctccagggcc cctgcctcat 60
 agacaacctc atagagcata ggagaactgg ttgccctggg ggcaggggga ctgtctggat 120
 ggcaagggtc ctcaaaaatg ccactgtcac tgccaggaaa tgcttctgag cagtacacct 180
 cattgggatc aatgaaaagc ttcaagaaat cttcaggctc actctcttga aggcccgga 240

cctctggagg ggggcagtgg aatcccagct ccaggacgga tcctgtcgaa aagatatacct 300
c 301

<210> 252
<211> 301
<212> DNA
<213> Homo sapien

<400> 252
gcaaccaatc actctgtttc acgtgacttt taccaccata caatttgtgg catttcctca 60
ttttctacat tgtagaatca agagtgtaaa taaatgtata tcgatgtctt caagaatata 120
tcattccttt ttacttagga acccattcaa aatataagtc aagaatctta atatcaacaa 180
atatatcaag caaactggaa ggcagaataa ctaccataat ttagtataag taccctaaagt 240
tttataaatc aaaagcccta atgataacca tttttagaat tcaatcatca ctgtagaatc 300
a 301

<210> 253
<211> 301
<212> DNA
<213> Homo sapien

<400> 253
ttccctaaga agatgttatt ttgttggggt ttgttcccc tccatctcga ttctcgtacc 60
caactaaaaa aaaaaaataa agaaaaaatg tgctgcgttc tgaaaaataa ctcccttagct 120
tggtctgatt gttttcagac cttaaaatat aaacttgttt cacaagcttt aatccatgtg 180
gatttttttt cttagagaac cacaaaacat aaaaggagca agtcggactg aatacctgtt 240
tccatagtgc ccacagggtt ttcttcacat tttctccata ggaaaatgct ttttccaag 300
g 301

<210> 254
<211> 301
<212> DNA
<213> Homo sapien

<400> 254
cgctgcgcct ttcccttggg ggaggggcaa ggccagaggg ggtccaagtg cagcacgagg 60
aacttgacca attcccttga agcgggtggg ttaaaccctg taaatgggaa caaaatcccc 120
ccaaatctct tcatcttacc ctggtggact cctgactgta gaattttttg gttgaaacaa 180
gaaaaaataa aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc 240
acttaaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgcc 300
t 301

<210> 255
<211> 302
<212> DNA
<213> Homo sapien

<400> 255
agcttttttt tttttttttt tttttttttt ttcattaaaa aatagtgtct tttattataa 60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaaagtt tgacttggat 120
tggtgatttt ttgagttctt caagcatctc ctaataccct caagggcctg agtagggggg 180
aggaaaaaag actggagggt gaatctttat aaaaaacaag agtgattgag gcagattgta 240
aacattatta aaaaacaaga aacaaacaaa aaaatagaga aaaaaaccac cccaacacac 300
aa 302

<210> 256
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 256

gttccagaaa	acattgaagg	tggtttccca	aagtctaact	agggataccc	cctctagcct	60
aggaccctcc	tccccacacc	tcaatccacc	aaaccatcca	taatgcaccc	agataggccc	120
acccccaaaa	gcctggacac	cttgagcaca	cagttatgac	caggacagac	tcatctctat	180
aggcaaatag	ctgctggcaa	actggcatta	cctgggtttgt	ggggatgggg	gggcaagtgt	240
gtggcctctc	ggcctgggta	gcaagaacat	tcagggttagg	cctaagttan	tcgtgttagt	300
t						301

<210> 257

<211> 301

<212> DNA

<213> Homo sapien

<400> 257

gttgtggagg	aactctggct	tgctcattaa	gtcctactga	ttttcactat	cccctgaatt	60
tccccactta	tttttgtctt	tcactatcgc	aggccttaga	agaggtctac	ctgcctccag	120
tcttacctag	tccagtctac	cccctggagt	tagaatggcc	atcctgaagt	gaaaagtaat	180
gtcacattac	tcccttcagt	gatttcttgt	agaagtgcc	atccctgaat	gccaccaaga	240
tcttaattctt	cacatcttta	atcttatctc	tttgactcct	ctttacaccg	gagaaggctc	300
c						301

<210> 258

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 258

cagcagtagt	agatgccgta	tgccagcacg	cccagcactc	ccaggatcag	caccagcacc	60
agggggcccc	ccaccaggcg	cagaagcaag	ataaacagta	ggctcaagac	cagagccacc	120
cccagggcaa	caagaatcca	ataccaggac	tgggcaaaat	cttcaaagat	cttaacactg	180
atgtctcgga	cattgaggct	gtcaataana	cgctgatccc	ctgctgtatg	gtgggtgtcat	240
tggtgatccc	tgggagcgcc	ggtggagtaa	cgttgggtcca	tggaaagcag	cgcccacaac	300
t						301

<210> 259

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 259

tcatatatgc	aaacaaatgc	agactangcc	tcaggcagag	actaaaggac	atctcttgga	60
gtgtcctgaa	gtgatttgga	cccctgaggg	cagacaccta	agtaggaatc	ccagtgggaa	120
gcaaagccat	aaggaagccc	aggattcctt	gtgatcagga	agtgggccag	gaaggtctgt	180
tccagctcac	atctcatctg	catgcagcac	ggaccggatg	cgcccactgg	gtcttggett	240
ccctcccatc	ttctcaagca	gtgtccttgt	tgagccattt	gcaccccttg	ctccaggtgg	300
c						301

<210> 260

<211> 301

<212> DNA
<213> Homo sapien

<400> 260
 ttttttttct ccctaaggaa aaagaaggaa caagtctcat aaaaccaa at aagcaatgg 60
 aaggtgtctt aacttgaaaa agattaggag tctctgggtt acaagttata attgaatgaa 120
 agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaaacia caggattaac 180
 tagggcaaaa taaataagtg tgtggaagcc ctgataagtg cttataaac agactgattc 240
 actgagacat cagtacctgc ccgggcggcc gctcgagccg aattctgcag atatccatca 300
 c 301

<210> 261
<211> 301
<212> DNA
<213> Homo sapien

<400> 261
 aaatattcga gcaaactctg taactaatgt gtctccataa aaggctttga actcagtga 60
 tctgcttcca tccacgattc tagcaatgac ctctcggaca tcaaagctcc tcttaagggt 120
 agcaccaact attccataca attcatcagc aggaataaaa ggctcttcag aagggtcaat 180
 ggtgacatcc aatttcttct gataatttag attcctcaca accttcctag ttaagtgaag 240
 ggcatgatga tcatccaaag ccagtggtc acttactcca gactttctgc aatgaagatc 300
 a 301

<210> 262
<211> 301
<212> DNA
<213> Homo sapien

<400> 262
 gaggagagcc tggtacagca tttgtaagca cagaatactc caggagtatt tgtaattgtc 60
 tgtgagcttc ttgccgcaag tctctcagaa atttaaaaag atgcaaatcc ctgagtcacc 120
 cctagacttc ctaaaccaga tctctggggg ctggaacctg gcaactctgca tttgtaatga 180
 gggctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtgcc 240
 catcattacc cccacattat aatgggtag attcagagca gatactctcc agcaagaat 300
 c 301

<210> 263
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

<400> 263
 tttagcttgt ggtaaatgac tcacaaaact gattttaaaa tcaagttaat gtgaattttg 60
 aaaattacta cttaatccta attcacaata acaatggcat taagggttga cttgagttgg 120
 ttcttagtat tatttatggt aaataggctc ttaccacttg caaataactg gccacatcat 180
 taatgactga cttcccagta aggtctctta aggggtaagt angaggatcc acaggatttg 240
 agatgctaag gccccagaga tcgtttgatc caacctctt attttcagag gggaaaatgg 300
 g 301

<210> 264
<211> 301
<212> DNA
<213> Homo sapien

<400> 264
 aaagacgtta aaccactcta ctaccacttg tggaactctc aaagggtaaa tgacaaascc 60

aatgaatgac	tctaaaaaca	atattttacat	ttaatggttt	gtagacaata	aaaaaacaag	120
gtggatagat	ctagaattgt	aacattttta	gaaaaccata	scatttgaca	gatgagaaag	180
ctcaattata	gatgcaaagt	tataactaaa	ctactatagt	agtaaagaaa	tacatttcac	240
acccttcata	taaattcact	atcttggctt	gaggcactcc	ataaaatgta	tcacgtgcat	300
a						301

<210> 265
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 265						
tgcccaagtt	atgtgtaagt	gtatccgcac	ccagaggtaa	aactacactg	tcattctttgt	60
cttcttgtga	cgcagtattt	cttctctggg	gagaagccgg	gaagtcttct	cctggctcta	120
catattcttg	gaagtctcta	atcaactttt	gttccatttg	tttcatttct	tcaggaggga	180
ttttcagttt	gtcaacatgt	tctctaacaa	cacttgccca	tttctgtaa	gaatccaaag	240
cagtccaagg	ctttgacatg	tcaacaacca	gcataactag	agtatccttc	agagatacgg	300
c						301

<210> 266
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 266						
taccgtctgc	ccttccctcc	atccaggcca	tctgcgaatc	tacatgggtc	ctcctattcg	60
acaccagatc	actctttcct	ctaccacacag	gcttgctatg	agcaagagac	acaacctcct	120
ctcttctgtg	ttccagcttc	ttttcctgtt	cttccacccc	cttaagttct	attcctgggg	180
atagagacac	caatacccat	aacctctctc	ctaagcctcc	ttataaccca	gggtgcacag	240
cacagactcc	tgacaactgg	taaggccaat	gaactgggag	ctcacagctg	gctgtgcctg	300
a						301

<210> 267
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 267						
aaagagcaca	ggccagctca	gcctgccctg	gccatctaga	ctcagcctgg	ctccatgggg	60
gttctcagtg	ctgagtcctat	ccaggaaaag	ctcacctaga	ccttctgagg	ctgaatcttc	120
atcctcacag	gcagcttctg	agagcctgat	attcctagcc	ttgatgggtc	ggagtaaagc	180
ctcattctga	ttcctctcct	tcttttcttt	caagttggct	ttcctcacat	ccctctgttc	240
aattcgcttc	agcttgtctg	ctttagccct	catttcaga	agcttcttct	ctttggcatc	300
t						301

<210> 268
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 268						
aatgtctcac	tcaactactt	cccagcctac	cgtggcctaa	ttctgggagt	tttcttctta	60
gatcttggga	gagctgggtc	ttctaaggag	aaggaggaag	gacagatgta	actttggatc	120
tcgaagagga	agtctaattg	aagtaattag	tcaacgggtcc	ttgttttagac	tcttgggaata	180
tgctgggtgg	ctcagtgagc	ccttttggag	aaagcaagta	ttattcttaa	ggagtaacca	240
cttccattg	ttctactttc	taccatcatc	aattgtatat	tatgtattct	ttggagaact	300
a						301

<210> 269
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 269
 taacaatata cactagctat cttttttaact gtccatcatt agcaccaatg aagattcaat 60
 aaaattacct ttattcacac atctcaaaac aattctgcaa attcttagtg aagtttaact 120
 atagtcacag accttaaata ttcacattgt tttctatgtc tactgaaaat aagttcacta 180
 cttttctgga tattctttac aaaatcttat taaaattcct ggtattatca cccccaatta 240
 tacagtagca caaccacctt atgtagtttt tacatgatag ctctgtagaa gtttcacatc 300
 t 301

<210> 270
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 270
 cattgaagag cttttgcgaa acatcagaac acaagtgcct ataaaaattaa ttaagcctta 60
 cacaagaata catattcctt ttatttctaa ggagttaaac atagatgtag ctgatgtgga 120
 gagcttgctg gtgcagtga tattggataa cactattcat ggccgaattg atcaagtcaa 180
 ccaactcctt gaactggatc atcagaagaa ggggtggtgca cgatatactg cactagataa 240
 tggaccaacc aactaaattc tctcaccagg ctgtatcagt aaactggctt aacagaaaac 300
 a 301

<210> 271
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 271
 aaaaggttct cataagatta acaatttaaa taaatatttg atagaacatt ctttctcatt 60
 tttatagctc atcttttagg ttgatattca gttcatgctt cccttgctgt tcttgatcca 120
 gaattgcaat cacttcatca gcctgtattc gctccaattc tctataaagt ggggtccaagg 180
 tgaaccacag agccacagca cacctctttc ccttggtgac tgccttcacc ccatganggt 240
 tctctcctcc agatganaac tgatcatgcy cccacatttt ggggttttata gaagcagtca 300
 c 301

<210> 272
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 272
 taaattgcta agccacagat aacaccaatc aaatggaaca aatcactgtc ttcaaagtgc 60
 ttatcagaaa accaaatgag cctggaatct tcataatacc taaacatgcc gtatttagga 120
 tccaataatt ccctcatgat gagcaagaaa aattctttgc gcacccctcc tgcattccaca 180
 gcatcttctc caacaaatat aaccttgagt ggcttcttgc aatctatggt ctttggtttc 240
 ctaaggactt ccattgcac tcctacaata ttttctctac gcaccactag aattaagcag 300
 g 301

<210> 273
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 273

acatgtgtgt atgtgtatct ttgggaaaaan aanaagacat cttgtttayt attttttttgg	60
agagangctg ggacatggat aatcacwtaa tttgctayta tyactttaat ctgactygaa	120
gaaccgtcta aaaataaaat ttaccatgtc dtatattcct tatagtatgc ttatttcacc	180
ttytttctgt ccagagagag tatcagtgac ananatttma gggagaamac atgmatttgt	240
gggacttnty tttacngagm accctgcccc sgcgccctcg makcngantt ccgcsananc	300
t	301

<210> 274

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 274

cttatatact ctttctcaga ggcaaaagag gagatgggta atgtagacaa ttctttgagg	60
aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa	120
tgattctctt tggaaatctga atgagatcaa gaggccagct ttagcttggtg gaaaagtcca	180
tctaggtatg gttgcattct cgtcttcttt tctgcagtag ataatgaggt aaccgaaggc	240
aattgtgctt cttttgataa gaagctttct tggatcatatc aggaaattcc aganaaaagtc	300
c	301

<210> 275

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 275

tcgggtgtcag cagcacgtgg cattgaacat tgcaatgtgg agcccaaacc acagaaaatg	60
gggtgaaatt ggccaacttt ctattaactt atgttggcaa ttttgccacc aacagtaagc	120
tggcccttct aataaaaagaa aattgaaagg tttctcacta aacggaatta agtagtggag	180
tcaagagact cccaggcctc agcgtacctg cccgggcggc cgctcgaagc cgaattctgc	240
agatatccat cacactggcg gncgctcgan catgcatcta gaaggnccaa ttcgcctat	300
a	301

<210> 276

<211> 301

<212> DNA

<213> Homo sapien

<400> 276

tgtacacata ctcaataaat aaatgactgc attgtggtat tattactata ctgattatat	60
ttatcatgtg acttctaatt agaaaatgta tccaaaagca aaacagcaga tataaaaaat	120
taaagagaca gaagatagac attaacagat aaggcaactt atacattgag aatccaaatc	180
caatacatTTT aaacatttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt	240
aaaactattc agtatgtttc ccttgcttca tgtctgagaa ggctctcctt caatggggat	300
g	301

<210> 277

<211> 301

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 277
 tttgttgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60
 atacagagga cttggaggaa gcagagcaac tgaatttaat ttaaaagaag gaaaacattg 120
 gaatcatggc actcctgata ctttcccaaa tcaacactct caatgccccca ccctcgctct 180
 caccatagtg gggagactaa agtggccacg gatttgcctt angtgtgcag tgcgttctga 240
 gttcncgtgc gattacatct gaccagtctc ctttttccga agtcnctccg ttcaatcttg 300
 c 301

<210> 278
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 278
 taccactaca ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaaatggaat 60
 aacatatcaa atgaaacagg gaaaatgaag ctgacaattt atggaagcca gggcttgtca 120
 cagtctctac tggtattatg cattacctgg gaatttatat aagcccttaa taataatgcc 180
 aatgaacatc tcatgtgtgc tcacaatggt ctggcactat tataagtgtc tcacagggtt 240
 tatgtgttct tcgtaacttt atggantagg tactcggccg cgaacacgct aagccgaatt 300
 c 301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 279
 aaagcaggaa tgacaaagct tgcttttctg gtatgttcta ggtgtattgt gacttttact 60
 gttatattaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttcacaaagc 120
 ttagaccttt accttccagc caccctcacag tgcttgatat ttcagagtca gtcattgggt 180
 atacatgtgt agttccaaag cacataagct agaanaanaa atatttctag ggagcactac 240
 catctgtttt cacatgaaat gccacacaca tagaactcca acatcaattt cattgcacag 300
 a 301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280
 ggtactggag ttttctccc ctgtgaaaac gtaactactg ttgggagtga attgaggatg 60
 tagaaagggt gtggaaccaa attgtgggtca atggaaatag gagaatatgg ttctcactct 120
 tgagaaaaaa acctaagatt agcccaggta gttgcctgta acttcagttt ttctgcctgg 180
 gtttgatata gtttaggggt ggggttagat taagatctaa attacatcag gacaaagaga 240
 cagactatta actccacagt taattaagga ggtatgttcc atgtttattt gttaaagcag 300
 t 301

<210> 281
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 281
 aggtacaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttggatattc 60
 gccgagcaat ccaaatcctg aatgaagggg catcttctga aaaaggagat ctgaatctca 120
 atgtggtagc aatggcttta tcgggttata cggatgagaa gaactccctt tggagagaaa 180
 tgtgtagcac actgcgatta cagctaaata acccgatttt gtgtgtcatg tttgcatttc 240
 tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagtt gcagtacctc 300
 g 301

<210> 282
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 282
 caggtactac agaattaaaa tactgacaag caagtagttt cttggcgtgc acgaattgca 60
 tccagaaccc aaaaattaag aaattcaaaa agacattttg tgggcacctg ctagcacaga 120
 agcgagaag caaagcccag gcagaacccat gctaacctta cagctcagcc tgcacagaag 180
 cgcagaagca aagcccaggc agaaccatgc taaccttaca gctcagcctg cacagaagcg 240
 cagaagcaaa gccccaggcag aacatgctaa ccttacagct cagcctgcac agaagcacag 300
 a 301

<210> 283
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 283
 atctgtatac ggcagacaaa ctttatarag tgtagagagg tgagcgaaag gatgcaaaag 60
 cactttgagg gctttataat aatatgctgc ttgaaaaaaa aaatgtgtag ttgatactca 120
 gtgcatctcc agacatagta aggggttgct ctgaccaatc aggtgatcat tttttctatc 180
 acttcccagg ttttatgcaa aaattttgtt aaattctata atggtgatat gcatctttta 240
 ggaaacatat acatttttaa aaatctattt tatgtaagaa ctgacagacg aatttgcttt 300
 g 301

<210> 284
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 284
 caggtacaaa acgctattaa gtggcttaga atttgaacat ttgtggtcct tatttacttt 60
 gcttcgtgtg tgggcaaagc aacatcttcc cttaaataat attaccaaga aaagcaagaa 120
 gcagattagg tttttgacaa aacaaacagg ccaaaagggg gctgacctgg agcagagcat 180
 ggtgagaggc aaggcatgag agggcaagtt tgttgtggac agatctgtgc ctactttatt 240
 actggagtaa aagaaaacaa agttcattga tgtcgaagga tatatacagt gtagaaaatt 300
 a 301

<210> 285
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 285

acatcaccat gatcggatcc cccacccatt atacgttgta tgtttacata aatactcttc	60
aatgatcatt agtgttttta aaaaaatact gaaaactcct tctgcatccc aatctctaac	120
caggaaagca aatgctatatt acagacctgc aagccctccc tcaaacnaaa ctatttctgg	180
attaaatatg tctgacttct tttagagtca cagcactagg caaatgctat ttacgatctg	240
caaaagctgt ttgaagagtc aaagccccc aagtgaacacg atttctggac cctgtaacag	300
t	301

<210> 286

<211> 301

<212> DNA

<213> Homo sapien

<400> 286

taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaaa aaactttgct	60
tgtatattat ttttgcccta cagtggatca ttctagtagg aaaggacagt aagatttttt	120
atcaaaatgt gtcatgccag taagagatgt tatattcttt tctcatttct tccccacca	180
aaaataagct accatatagc ttataagtct caaatttttg ctttttacta aaatgtgatt	240
gtttctgttc attgtgtatg cttcatcacc tatattaggc aaattccatt ttttcccttg	300
t	301

<210> 287

<211> 301

<212> DNA

<213> Homo sapien

<400> 287

tacagatctg ggaactaaat attaaaaatg agtggtggctg gatatatgga gaatgttggg	60
cccagaagga acgtagagat cagatattac aacagctttg ttttgagggt tagaaatatg	120
aaatgatttg gttatgaacg cacagttagg gcagcagggc cagaatcctg accctctgcc	180
ccgtggttat ctctcccca gcttggtgc ctcatgttat cacagtattc cattttgttt	240
gttgcattgc ttgtgaagcc atcaagattt tctcgtctgt tttcctctca ttggtaatgc	300
t	301

<210> 288

<211> 301

<212> DNA

<213> Homo sapien

<400> 288

gtacacctaa ctgcaaggac agctgaggaa tgtaatgggc agccgctttt aaagaagtag	60
agtcaatagg aagacaaatt ccagttccag ctcatgtctg gtatctgcaa agctgcaaaa	120
gatcttttaa gacaatttca agagaatatt tccttaaagt tggcaatttg gagatcatac	180
aaaagcatct gcttttgtga tttaatttag ctcatctggc cactggaaga atccaaacag	240
tctgccttaa ttttggtatg atgcatgatg gaaattcaat aatttagaaa gttaaaaaaa	300
a	301

<210> 289

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 289

ggtacactgt ttccatgtta tgtttctaca cattgctacc tcagtgtctc tggaaactta	60
gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg	120
ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa	180

88

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cgttctataa atgaatgtgc tgaagcaaag tgcccatggt ggcgggcgaan aagagaaaaga 240
tgtgttttgt tttggactct ctgtggtccc ttccaatgct gtgggtttcc aaccagnnga 300
a 301

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<210> 290
<211> 301
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

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<400> 290
acactgagct cttcttgata aatatacaga atgcttggca tatacaagat tctatactac 60
tgactgatct gttcatttct ctcacagctc ttaccccca aagcttttcc accctaagtg 120
ttctgacctc ctttttcta ctcacagtagg atagaggcag anccacctac aatgaacatg 180
gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg ctagcagtgc 240
tgccttgaac aaaaacattt ctccatgtct cattttcttc atgcctcaag taacagtgag 300
a 301

```

```

<210> 291
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 291
caggtaccaa tttcttctat cctagaaaca tttcatttta tgttggtgaa acataacaac 60
tatatcagct agattttttt tctatgcttt acctgctatg gaaaatttga cacattctgc 120
tttactcttt tgtttatagg tgaatcacia aatgtatttt tatgtattct gtagttcaat 180
agccatggct gtttacttca ttaattttat ttagcataaa gacattatga aaaggcctaa 240
acatgagctt cacttcccca ctaactaatt agcatctggt atttcttaac cgtaatgcct 300
a 301

```

```

<210> 292
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 292
accttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc 60
tgtattaaat aatttttaag tttaaaagat aaaataccat cattttaaat gttgggtattc 120
aaaaccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnagatg 180
ggaaatatag tasttyatga atgttnatta aattccagtt ataatagtgg ctacacactc 240
tactacaca cacagacccc acagtcctat atgccacaaa cacatttcca taacttgaaa 300
a 301

```

```

<210> 293
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 293
ggtaccaagt gctgggtgcc gctgttacc tgttctcact gaaaagtctg gctaagtctc 60
ttgtgtagtc acttctgatt ctgacaatca atcaatcaat ggcctagagc actgactgtt 120
aacacaaacg tcactagcaa agtagcaaca gctttaagtc taaatacaaa gctgttctgt 180

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gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgtacctcgg 240
 ccgcgaccac gctaagccga attctgcaga tatccatcac actggcggcc gctcgagcat 300
 g 301

<210> 294
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 294
 tgacccataa caatatacac tagctatctt ttttaactgtc catcattagc accaatgaag 60
 attcaataaa attaccttta ttcacacatc tcaaaaacaat tctgcaaatt cttagtgaag 120
 ttttaactata gtcacaganc ttaaataattc acattgtttt ctatgtctac tgaaaataag 180
 ttcactactt ttctgggata ttctttacaa aatcttatta aaattcctgg tattatcacc 240
 cccaattata cagtagcaca accaccttat gtagttttta catgatagct ctgtagaggt 300
 t 301

<210> 295
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 295
 gtactctttc tctccctcc tctgaattta attctttcaa cttgcaattt gcaaggatta 60
 cacatttcac tgtgatgtat attgtgttgc aaaaaaaaaa gtgtctttgt ttaaaattac 120
 ttggtttgtg aatccatctt gctttttccc cattgggaact agtcattaac ccattctctga 180
 actggtagaa aaacrtctga agagctagtc tatcagcatc tgacaggtga attggatggt 240
 tctcagaacc atttcaccca gacagcctgt ttctatcctg ttaataaat tagtttgggt 300
 tctct 305

<210> 296
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 296
 aggtactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct 60
 cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt attttccttg 120
 attaaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac 180
 ttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt 240
 tgtcattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg 300
 c 301

<210> 297
 <211> 300
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(300)
 <223> n = A,T,C or G

<400> 297
 actgagtttt aactggacgc caagcaggca aggctggaag gttttgctct ctttgtgcta 60
 aaggttttga aaaccttgaa ggagaatcat ttgacaaga agtacttaag agtctagaga 120
 acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180

tccatcattg	ggagtgcact	ggccatccct	caaaatttgt	ctgggctggc	ctgagtggtc	240
accgcacctc	ggccgcgacc	acgctaagcc	gaattctgca	gatatccatc	acactggcgg	300

<210> 298
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 298						
tatggggttt	gtcacccaaa	agctgatgct	gagaaaggcc	tccctggggc	ccctcccgcg	60
ggcatctgag	agacctgggtg	ttccagtgtt	tctggaaatg	ggtcccagtg	ccgccgggctg	120
tgaagctctc	agatcaatca	cgggaagggc	ctggcggtgg	tggccacctg	gaaccaccct	180
gtcctgtctg	tttacatttc	actaycaggt	tttctctggg	cattacnatt	tgttccccta	240
caacagtgc	ctgtgcattc	tgctgtggcc	tgctgtgtct	gcaggtggct	ctcagcgagg	300
t						301

<210> 299
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 299						
gttttgagac	ggagtttcac	tcttgttgcc	cagactggac	tgcaatggca	gggtctctgc	60
tcactgcacc	ctctgcctcc	caggttcgag	caattctcct	gcctcagcct	cccaggtagc	120
tgggattgca	ggctcacgcc	accataccca	gctaattttt	ttgtattttt	agtagagacg	180
gagtttcgcc	atgttgccca	gctggtctca	aactcctgac	ctcaagcgac	ctgcctgcct	240
cggcctccca	aagtgtctgga	attataggca	tgagtcaaca	cgccagcct	aaagatatatt	300
t						301

<210> 300
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 300						
attcagtttt	atttgetgcc	ccagtatctg	taaccaggag	tgccacaaaa	tcttgccaga	60
tatgtccac	acccactggg	aaaggctccc	acctggctac	ttcctctatc	agctgggtca	120
gctgcattcc	acaaggttct	cagcctaattg	agtttacta	cctgccagtc	tcaaaactta	180
gtaaagcaag	accatgacat	tccccacgg	aatcagagt	ttgccccacc	gtcttgttac	240
tataaagcct	gcctctaaca	gtccttgctt	cttcacacca	atcccagcgg	catcccccat	300
g						301

<210> 301
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 301						
ttaaattttt	gagaggataa	aaaggacaaa	taatctagaa	atgtgtcttc	ttcagtctgc	60
agaggacccc	aggtctccaa	gcaaccacat	ggtcaagggc	atgaataatt	aaaagttggt	120
gggaactcac	aaagaccctc	agagctgaga	caccacaac	agtgggagct	cacaaagacc	180
ctcagagctg	agacaccac	aacagtggga	gctcacaaag	accctcagag	ctgagacacc	240
cacaacagca	cctcgttcag	ctgccacatg	tgtgaataag	gatgcaatgt	ccagaagtgt	300
t						301

<210> 302
 <211> 301

<212> DNA

<213> Homo sapien

<400> 302

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aggtacacat ttagcttgtg gtaaattgact cacaaaactg attttaaaat caagttaatg      60
tgaattttga aaattactac ttaatcctaa ttcacaataa caatggcatt aaggtttgac      120
ttgagttggg tcttagtatt atttatggta aataggctct taccacttgc aaataactgg      180
ccacatcatt aatgactgac ttcccagtaa ggctctctaa ggggtaagta ggaggatcca      240
caggatttga gatgctaagg ccccagagat cgtttgatcc aaccctctta ttttcagagg      300
g                                                                                   301

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<210> 303

<211> 301

<212> DNA

<213> Homo sapien

<400> 303

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aggtaccaac tgtggaaata ggtagaggat cattttttct ttccatatca actaagttgt      60
atattgtttt ttgacagttt aacacatctt cttctgtcag agattctttc acaatagcac      120
tggtcaatgg aactaccgct tgcattgtta aaatgggtgg ttgtgaaatg atcataggcc      180
agtaacgggt atgtttttct aactgatctt ttgctcgttc caaagggacc tcaagacttc      240
catcgatttt atatctgggg tctagaaaag gagttaatct gttttccctc ataaattcac      300
c                                                                                   301

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<210> 304

<211> 301

<212> DNA

<213> Homo sapien

<400> 304

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acatggatgt tattttgcag actgtcaacc tgaatttgta tttgcttgac attgcctaata      60
tattagtttc agtttcagct taccactttt ttgtctgcaa catgcaraas agacagtgcc      120
cttttttagtg tatcatatca ggaatcatct cacattgggt ttgtgccatta ctgggtgcagt      180
gactttcagc cacttgggta aggtggagtt ggccatatgt ctccactgca aaattactga      240
ttttcctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatatatct      300
c                                                                                   301

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<210> 305

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 305

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gangtacagc gtgggtcaagg taacaagaag aaaaaaatgt gagtggcatc ctgggatgag      60
cagggggaca gacctggaca gacacgttgt catttgctgc tgtgggtagg aaaatgggag      120
taaaggagga gaaacagata caaaatctcc aactcagtat taaggatttc tcatgcctag      180
aatattggta gaaacaagaa tacattcata tggcaaatata ctaaccatgg tggaacaaaa      240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggaataag      300
a                                                                                   301

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<210> 306

<211> 8

<212> PRT

<213> Homo sapien

<400> 306

Val Leu Gly Trp Val Ala Glu Leu

1

5

<210> 307
 <211> 637
 <212> DNA
 <213> Homo sapien

<400> 307
 acagggratg aagggaaggg gagaggatga ggaagccccc ctgggggattt ggtttgggtcc 60
 ttgtgatcag gtggtctatg gggcttatcc ctacaaagaa gaatccagaa ataggggcac 120
 attgaggaat gatacttgag cccaaagagc attcaatcat tgttttatatt gccttmtttt 180
 cacaccattg gtgaggagg gattaccacc ctgggggttat gaagatggtt gaacacccca 240
 cacatagcac cggagatatg agatcaacag tttcttagcc atagagattc acagcccaga 300
 gcaggaggac gcttgccacac catgcaggat gacatggggg atgcgctcgg gattgggtgtg 360
 aagaagcaag gactgttaga ggcaggcttt atagtaacaa gacgggtggg caaactctga 420
 tttccgtggg ggaatgtcat ggtcttgctt tactaagttt tgagactggc aggtagtga 480
 actcattagg ctgagaacct tgtggaatgc acttgaccca sctgatagag gaagtagcca 540
 ggtgggagcc tttcccagtg ggtgtgggac atatctggca agattttgtg gcactcctgg 600
 ttacagatac tggggcagca aataaaaactg aatcttg 637

<210> 308
 <211> 647
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(647)
 <223> n = A,T,C or G

<400> 308
 acgattttta ttatcatgta aatcgggtca ctcaagggggc caaccacagc tgggagccac 60
 tgctcagggg aaggttcata tgggactttc tactgcccaa ggttctatac aggatataaa 120
 ggngcctcac agtatagatc tggtagcaaa gaagaagaaa caaacactga tctctttctg 180
 ccaccctctt gacccttttg aactcctctg accctttaga acaagcctac ctaatatctg 240
 ctagagaaaa gaccaacaac ggcctcaaag gatctcttac catgaaggtc tcagctaatt 300
 cttggctaag atgtgggttc cacattaggt tctgaatatg gggggaaggg tcaatttgct 360
 cattttgtgt gtggataaag tcaggatgcc cagggggggc tgcttgcttt 420
 gggaacaatg gctgagcata taacctatgg ttatggggaa caaaacaaca tcaaagtcac 480
 tgtatcaatt gccatgaaga cttgagggac ctgaatctac cgattcatct taaggcagca 540
 ggaccagttt gagtggcaac aatgcagcag cagaatcaat ggaaacaaca gaatgattgc 600
 aatgtccttt tttttctcct gcttctgact tgataaaaagg ggaccgt 647

<210> 309
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 309
 actttatagt ttaggctgga cattggaaaa aaaaaaaagc cagaacaaca tgtgatagat 60
 aatatgattg gctgcacact tccagactga tgaatgatga acgtgatgga ctattgtatg 120
 gagcacatct tcagcaagag ggggaaatac tcatcatttt tggccagcag ttgtttgatc 180
 accaaacatc atgccagaat actcagcaaa ccttcttagc tcttgagaag tcaaagtcgg 240
 ggggaattta ttcctggcaa ttttaatttg actccttatg tgagagcagc ggctaccagg 300
 ctgggggtgtt gtagcgaaac cgctactagt ggacatgcag tggcagagct cctggtaacc 360
 acctagagga atacacaggc acatgtgtga tgccaagcgt gacacctgta gcactcaaat 420
 ttgtcttggt tttgtctttc ggtgtgtaag attcttaagt 460

<210> 310
 <211> 539
 <212> DNA
 <213> Homo sapien

<400> 310

acgggactta	tcaaataaag	ataggaaaag	aagaaaactc	aaatattata	ggcagaaatg	60
ctaaagggtt	taaaatatgt	caggattgga	agaaggcatg	gataaagaac	aaagttcagt	120
taggaaagag	aaacacagaa	ggaagagaca	caataaaagt	cattatgtat	tctgtgagaa	180
gtcagaçagt	aagatttgtg	ggaaatgggt	tggtttgttg	tatggatagt	atttttagcaa	240
taatctttat	ggcagagaaa	gctaaaatcc	tttagcttgc	gtgaatgatc	acttgctgaa	300
ttcctcaagg	taggcatgat	gaaggagggt	ttagaggaga	cacagacaca	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaaggaag	aacttatggc	480
atattttcac	ccccacaaaa	gtcagttaaa	tattgggaca	ctaaccatcc	aggtcaaga	539

<210> 311

<211> 526

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(526)

<223> n = A,T,C or G

<400> 311

caaatttgag	ccaatgacat	agaattttac	aaatcaagaa	gcttattctg	gggccatttc	60
ttttgacgtt	ttctctaaac	tactaaagag	gcattaatga	tccataaatt	atattatcta	120
catttacagc	atttaaaatg	tggtcagcat	gaaatattag	ctacagggga	agctaaataa	180
attaaacatg	gaataaagat	ttgtccctta	atataatcta	caagaagact	ttgatatttg	240
tttttcacaa	gtgaagcatt	cttataaagt	gtcataacct	ttttggggaa	actatgggaa	300
aaaatgggga	aactctgaag	ggttttaagt	atcttacctg	aagctacaga	ctccataacc	360
tctctttaca	gggagctcct	gcagccccta	cagaaatgag	tggctgagat	tcttgattgc	420
acagcaagag	cttctcatct	aaaccctttc	cctttttagt	atctgtgtat	caagtataaa	480
agttctataa	actgtagtnt	acttatttta	atccccaaag	cacagt		526

<210> 312

<211> 500

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(500)

<223> n = A,T,C or G

<400> 312

cctctctctc	cccacccctc	gactctagag	aactgggttt	tctcccagta	ctccagcaat	60
tcattttctga	aagcagttga	gccactttat	tccaaagtac	actgcagatg	ttcaaactct	120
ccatttctct	ttcccttcca	cctgccagtt	ttgctgactc	tcaacttgct	atgagtgtaa	180
gcattaagga	cattatgctt	cttcgattct	gaagacaggc	cctgctcatg	gatgactctg	240
gcttcttagg	aaaatatttt	tcttccaaaa	tcagtaggaa	atctaaactt	atcccctctt	300
tgcatatgtc	tagcagcttc	agacatttgg	ttaagaacct	atgggaaaaa	aaaaaatcct	360
tgctaattgt	gtttcctttg	taaaccanga	ttcttatttg	nctggatatag	aatatcagct	420
ctgaacgtgt	ggtaaagatt	tttgtgtttg	aatataggag	aatcagttt	gctgaaaagt	480
tagtcttaat	tatctattgg					500

<210> 313

<211> 718

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(718)

<223> n = A, T, C or G

<400> 313

ggagatttgt	gtggtttgca	gccgagggag	accaggaaga	tctgcatggt	gggaaggacc	60
tgatgataca	gaggtgagaa	ataagaaagg	ctgctgactt	taccatctga	ggccacacat	120
ctgctgaaat	ggagataatt	aacatcacta	gaaacagcaa	gatgacaata	taatgtctaa	180
gtagtgacat	gtttttgcac	atttccagcc	cttttaaata	tccacacaca	caggaagcac	240
aaaaggaagc	acagagatcc	ctggggagaaa	tgcccggccg	ccatcttggg	tcatcgatga	300
gcctcgccct	gtgcctgntc	ccgcttgtga	gggaaggaca	ttagaaaatg	aattgatgtg	360
ttccttaaag	gatggcagga	aaacagatcc	tggtgtggat	atttatttga	acgggattac	420
agattttgaaa	tgaagtcaca	aagtgagcat	taccaatgag	aggaaaacag	acgagaaaat	480
cttgatgggt	cacaagacat	gcaacaaaca	aaatggaata	ctgtgatgac	acgagcagcc	540
aactggggag	gagataccac	ggggcagagg	tcaggattct	ggccctgctg	cctaactgtg	600
cgttatacca	atcattttcta	tttctaccct	caaacaagct	gtngaatatc	tgacttacgg	660
ttcttntggc	ccacattttc	atnatccacc	ccntcntttt	aannttantic	caaantgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttattttac	attacagaaa	aaacatcaag	acaatgtata	ctatttcaaa	tatatccata	60
cataatcaaaa	tatagctgta	gtacatgttt	tcattgggtg	agattaccac	aaatgcaagg	120
caacatgtgt	agatctcttg	tcttattctt	ttgtctataa	tactgtattg	tgtagtccaa	180
gctctcggtg	gtccagccac	tgtgaaacat	gtccctttta	gattaacctc	gtggacgctc	240
ttgttgattt	gctgaactgt	agtgcctgt	attttgcttc	tgtctgtgaa	ttctgttgct	300
tctggggcat	ttccttgtga	tgacagggac	caccacacag	atgacagcaa	tctgaatt	358

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

taccacctcc	ccgctggcac	tgatgagccg	catcaccatg	gtcaccagca	ccatgaaggc	60
ataggtgatg	atgaggacat	ggaatgggcc	cccaaggatg	gtctgtccaa	agaagcgagt	120
gaccccccatt	ctgaagatgt	ctggaacctc	taccagcagg	atgatgatag	ccccaatgac	180
agtcaccagc	tccccgacca	gccggatatc	gtccttaggg	gtcatgtagg	cttcctgaag	240
tagcttctgc	tgtaagaggg	tgttgtcccg	ggggctcgtg	cggttattgg	tcttgggctt	300
gagggggcgg	tagatgcagc	acatggtgaa	gcagatgatg	t		341

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

agactgggca	agactcttac	gccccacact	gcaatttggt	cttgttgccg	tatccattta	60
tgtgggcctt	tctcgagttt	ctgattataa	acaccactgg	agcgatgtgt	tgactggact	120
cattcagggg	gctctgggtg	caatattagt	t			151

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

agaactagtg	gatacctaag	aaatacctga	aacatatatt	ggcattttatc	aatgggtcaa	60
atcttcatct	atctctggcc	ttaaccttgg	ctcctgaggc	tgcgccagc	agatcccagg	120
ccagggctct	gttcttgcca	cacctgcttg	a			151

<210> 318
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 318
 actggtggga ggcgctgttt agttggctgt tttcagaggg gtctttcgga gggacctcct 60
 gctgcaggct ggagtgtctt tattcctggc gggagaccgc acattccact gctgaggctg 120
 tgggggagggt ttatcaggca gtgataaaca t 151

<210> 319
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 319
 aactagtggga tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta 60
 catagatagt actagggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg 120
 taagattggg tttatgtgat tttagtgggt a 151

<210> 320
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 320
 aactagtggga tccactagtc cagtgtgggtg gaattccatt gtggtgggggt tctagatcgc 60
 gagcggctgc cttttttttt tttttttttg ggggggaatt tttttttttt aatagttatt 120
 gagtgttcta cagcttacag taaataccat 150

<210> 321
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 321
 agcaacttttg tttttcatcc aggttatattt aggcttagga tttcctctca cactgcagtt 60
 taggggtggca ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg 120
 tgcctctgag aaatcaaagt cttcatacac t 151

<210> 322
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(151)
 <223> n = A,T,C or G

<400> 322
 atccagcatc ttctcctgtt tcttgccctc ctttttcttc ttcttasatt ctgcttgagg 60
 tttgggcttg gtcagtttgc cacagggctt ggagatggtg acagtcttct ggcattcggc 120
 attgtgcagg gctcgcttca nacttccagt t 151

<210> 323
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 323

tgaggacttg	tktttctttt	ctttattttt	aatcctctta	ckttgtaa	atattgccta	60
nagactcant	tactaccag	tttgtggtt	twtgggagaa	atgtaactgg	acagttagct	120
gttcaatyaa	aaagacactt	ancccatgtg	g			151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

acctgtgtgg	aatttcagct	ttcctcatgc	aaaaggattt	tgtatccccg	gcctacttga	60
agaagtggtc	agctaaagga	atccagggtg	ttgggtggac	tgtaataacc	tttgatgaaa	120
agagttacta	cgaatcccat	cttggttcca	gctatatcac	tgacagcatg	gtagaagact	180
gcgaacctca	cttctagact	ttcacgggtg	gacgaaacgg	gttcagaaac	tgccaggggc	240
ctcatacagg	gatatacaaa	taccctttgt	gctacccagg	ccctggggaa	tcaggtgact	300
cacacaaatg	caatagttgg	tactgcat	tttacctgaa	ccaaagctaa	acccggtgtt	360
gccaccatgc	accatggcat	gccagagttc	aacactgttg	ctcttgaaaa	ttgggtctga	420
aaaaacgcac	aagagcccct	gccctgccct	agctgangca	c		461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acactgtttc	catgttatgt	ttctacacat	tgctacctca	gtgctcctgg	aaacttagct	60
tttgatgtct	ccaagtagtc	caccttcatt	taactctttg	aaactgtatc	atctttgcca	120
agtaagagt	gtggcctatt	tcagctgctt	tgacaaaatg	actggctcct	gacttaacgt	180
tctataaatg	aatgtgctga	agcaaagtgc	ccatggtggc	ggcgaagaag	agaaagatgt	240
gtttgtttt	ggactctctg	tggtcccttc	caatgctgtg	ggtttccaac	caggggaagg	300
gtccctttt	cattgccaa	tgccataacc	atgagcacta	cgctaccatg	gttctgcctc	360
ctggccaagc	aggctggtt	gcaagaatga	aatgaatgat			400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

ggaggactgc	agcccgact	cgcagccctg	gcaggcgga	ctggctcatg	aaaacgaatt	60
gttctgctcg	ggcgtcctgg	tgcatccgca	gtgggtgctg	tcagccgcac	actgtttcca	120
gaactcctac	accatcgggc	tgggcctgca	cagtcttgag	gccgaccaag	agccagggag	180
ccagatggtg	gaggccagcc	tctccgtacg	gcaccagag	tacaacagac	ccttgctcgc	240
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catcagcatt	gcttcgcagt	gccctaccgc	ggggaactct	tgccctcgtt	ctggctgggg	360
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<210> 327
 <211> 220
 <212> PRT
 <213> Homo sapien

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<400> 327
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Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35     40     45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50     55     60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65     70     75     80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85     90     95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100    105    110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115    120    125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130    135    140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145    150    155    160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165    170    175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180    185    190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195    200    205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210    215    220

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<210> 328
 <211> 234
 <212> DNA
 <213> Homo sapien

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atccgcagtg ggtgctgtca gccacacact gtttccagaa ctcctacacc atcgggctgg 180
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<210> 329
 <211> 77
 <212> PRT
 <213> Homo sapien

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<400> 329
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 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
 35 40 45
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 65 70 75

<210> 330
 <211> 70
 <212> DNA
 <213> Homo sapien

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<210> 331
 <211> 22
 <212> PRT
 <213> Homo sapien

<400> 331
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 Val Ser Gly Ser Cys Ser
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<210> 332
 <211> 2507
 <212> DNA
 <213> Homo sapien

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<210> 333

<211> 3030

<212> DNA

<213> Homo sapien

<400> 333

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<210> 334

<211> 2417

<212> DNA

<213> Homo sapien

<400> 334

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<211> 2984

<212> DNA

<213> Homo sapien

<400> 335

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gaaaaccatt	ctaaaacaca	acaagaaact	gtccaaatgc	tttgggaact	gtgtttattg	2040
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ggagaaatct	ggctgtcctt	ccattttcat	tctgttatct	cagggtgagct	ggtagagggg	2160
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ccatttcacc	cagacagcct	gtttctatcc	tgtttaataa	attagtttgg	gttctctaca	2820
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cacccccacc	aaactttatt	tttctatgtg	ttttttgcaa	catatgagtg	ttttgaaaat	2940
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<210> 336

<211> 147

<212> PR

<213> Homo sapien

<400> 336

Pro Ser Phe Pro Thr Leu Leu Ser Arg Arg His Leu Gly Ser Tyr Leu

102

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      1           5           10           15
Leu Asp Ser Glu Asn Thr Ser Gly Ala Leu Pro Arg Leu Pro Gln Thr
      20           25           30
Pro Lys Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln
      35           40           45
Val Ile Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala
      50           55           60
Pro Glu Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln
      65           70           75           80
Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
      85           90           95
Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
      100          105          110
Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn
      115          120          125
Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro
      130          135          140
Ala Phe Trp
145

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<210> 337
<211> 9
<212> PRT
<213> Homo sapien

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<400> 337
Ala Leu Thr Gly Phe Thr Phe Ser Ala
 1           5

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<210> 338
<211> 9
<212> PRT
<213> Homo sapien

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<400> 338
Leu Leu Ala Asn Asp Leu Met Leu Ile
 1           5

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<210> 339
<211> 318
<212> PRT
<213> Homo sapien

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<400> 339
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Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val
      20           25           30
Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Thr Gly
      35           40           45
Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
      50           55           60
Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
      65           70           75           80
Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
      85           90           95
Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
      100          105          110
Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
      115          120          125
Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met

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130	His Ile Gly Val Asn	135	His Leu Gly His Phe	140	Leu Thr His Leu Leu
145	Leu Glu Lys Leu Lys	150	Glu Ser Ala Pro Ser	155	Arg Ile Val Asn Val Ser
	165		170		175
Ser Leu Ala His	His Leu Gly Arg	Ile His Phe His	Asn Leu Gln Gly		
	180		185		190
Glu Lys Phe Tyr	Asn Ala Gly Leu	Ala Tyr Cys His	Ser Lys Leu Ala		
	195		200		205
Asn Ile Leu Phe Thr	Gln Glu Leu Ala	Arg Arg Leu Lys	Gly Ser Gly		
	210		215		220
Val Thr Thr Tyr Ser	Val His Pro Gly	Thr Val Gln Ser	Glu Leu Val		
	225		230		235
Arg His Ser Ser Phe	Met Arg Trp Met	Trp Trp Leu Phe	Ser Phe Phe		
	245		250		255
Ile Lys Thr Pro Gln	Gln Gly Ala Gln	Thr Ser Leu His	Cys Ala Leu		
	260		265		270
Thr Glu Gly Leu Glu	Ile Leu Ser Gly	Asn His Phe Ser	Asp Cys His		
	275		280		285
Val Ala Trp Val Ser	Ala Gln Ala Arg	Asn Glu Thr Ile	Ala Arg Arg		
	290		295		300
Leu Trp Asp Val Ser	Cys Asp Leu Leu	Gly Leu Pro Ile	Asp		
305	310		315		

<210> 340
 <211> 483
 <212> DNA
 <213> Homo sapien

<400> 340

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ctcctgctgc	aggctggagt	gtctttattc	ctggcgggag	accgcacatt	ccactgctga	180
ggttggtggg	gcggtttatc	aggcagtgat	aaacataaga	tgtcatttcc	ttgactccgg	240
ccttcaattt	tctctttggc	tgacgacgga	gtccgtggtg	tcccgatgta	actgaccctt	300
gctccaaacg	tgacatcact	gatgctcttc	tcgggggtgc	tgatggcccg	cttggtcacg	360
tgctcaatct	cgccattcga	ctcttgctcc	aaactgtatg	aagacacctg	actgcacgtt	420
ttttctgggc	ttccagaatt	taaagtgaag	ggcagcactc	ctaagctccg	actccgatgc	480
ctg						483

<210> 341
 <211> 344
 <212> DNA
 <213> Homo sapien

<400> 341

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tatttttact	aaccattcta	tttttataga	aatagctgag	agtttctaaa	ccaactctct	120
gctgccttac	aagtattaaa	tattttactt	ctttccataa	agagtagctc	aaaatatgca	180
attaatttaa	taattttctga	tgatggtttt	atctgcagta	atatgtatat	catctattag	240
aatttactta	atgaaaaact	gaagagaaca	aaatttgtaa	ccactagcac	ttaagtactc	300
ctgattctta	acattgtctt	taatgaccac	aagacaacca	acag		344

<210> 342
 <211> 592
 <212> DNA
 <213> Homo sapien

<400> 342

acagcaaaaa	agaaactgag	aagcccaaty	tgctttcttg	ttaacatcca	cttatccaac	60
caatgtggaa	acttcttata	cttggttcca	ttatgaagtt	ggacaattgc	tgctatcaca	120
cctggcaggt	aaaccaatgc	caagagagtg	atggaaacca	ttggcaagac	tttggtgatg	180

104

accaggattg	gaattttata	aaaatattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
tccctcagaa	gagtgtaaag	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgccact	gtggaaagag	ttcctgtgtg	tgctgaagtt	ctgaaggcca	gtcaaattca	360
tcagcatggg	ctgtttggtg	caaatgcaaa	agcacaggtc	tttttagcat	gctggctctt	420
cccgtgtcct	tatgcaaata	atcgtcttct	tctaaatttc	tcctaggctt	cattttccaa	480
agttcttctt	ggtttgat	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttagcttga	cogtgagtct	cggctgccgc	tg	592

<210> 343

<211> 382

<212> DNA

<213> Homo sapien

<400> 343

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cttgtaactc	tcctttctcc	tttcttcccc	tttctctgcc	cgcctttccc	atcctgctgt	180
agactttctt	attgtcagtc	tgtgtcacat	ccagtgattg	ttttggtttc	tgttcccttt	240
ctgactgccc	aaggggctca	gaaccccagc	aatcccttcc	tttactacc	ttcttttttg	300
ggggtagttg	gaagggactg	aaattgtggg	gggaaggtag	gaggcacatc	aataaagagg	360
aaaccaccaa	gctgaaaaaa	aa				382

<210> 344

<211> 536

<212> DNA

<213> Homo sapien

<400> 344

ctgggcctga	agctgtaggg	taaatcagag	gcaggcttct	gagtgatgag	agtcctgaga	60
caataggcca	cataaacttg	gctggatgga	acctcacaat	aaggtgggtca	cctcttggtt	120
gtttaggggg	atgccaaagg	taaggccagc	tcagttatat	gaagagaagc	agaacaaaca	180
agtctttcag	agaaatggat	gcaatcagag	tgggatcccc	gtcacatcaa	ggtcacactc	240
caccttcag	tgctggaatg	gttgccagggt	cagaaaaatc	caccccttac	gagtgcgggt	300
tcgacctat	atcccccgcc	cgcgtccctt	tctccataaa	attcttctta	gtagctatta	360
ccttcttatt	atttgatcta	gaaattgccc	tccttttacc	cctaccatga	gccctacaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
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<210> 345

<211> 251

<212> DNA

<213> Homo sapien

<400> 345

accttttgag	gtctctctca	ccacctccac	agccaccgtc	accgtgggat	gtgctggatg	60
tgaatgaagc	ccccatcttt	gtgcctcctg	aaaagagagt	ggaagtgtcc	gaggactttg	120
gcgtgggcca	ggaaatcaca	tcctacactg	cccaggagcc	agacacattt	atggaacaga	180
aaataacata	tcggatttgg	agagacactg	ccaactgggt	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346

<211> 282

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(282)

<223> n = A,T,C or G

<400> 346

cgcgtctctg	acactgtgat	catgacaggg	gttcaaacag	aaagtgcctg	ggccctcctt	60
------------	------------	------------	------------	------------	------------	----

ctaagtcttg	ttaccaaaaa	aaggaaaaag	aaaagatctt	ctcagttaca	aattctggga	120
agggagacta	tacctggctc	ttgccctaag	tgagaggtct	tcctccccgc	acaaaaaat	180
agaaaggctt	tctatttcac	tggcccaggt	agggggaagg	agagtaactt	tgagtctgtg	240
ggtctcattt	cccaagggtg	cttcaatgct	catnaaaacc	aa		282

<210> 347

<211> 201

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(201)

<223> n = A,T,C or G

<400> 347

acacacataa	tattataaaa	tgccatctaa	ttggaaggag	ctttctatca	ttgcaagtca	60
taaatataac	ttttaaaaana	ntactancag	cttttaccta	ngtcctaaa	tgcttgtaaa	120
tctgagactg	actggaccca	cccagaccca	gggcaaagat	acatgttacc	atatcatctt	180
tataaagaat	ttttttttgt	c				201

<210> 348

<211> 251

<212> DNA

<213> Homo sapien

<400> 348

ctgttaatca	caacatttgt	gcatacttg	tgccaagtga	gaaaatgttc	taaaatcaca	60
agagagaaca	gtgccagaat	gaaactgacc	ctaagtccca	ggtgcccctg	ggcaggcaga	120
aggagacact	cccagcatgg	aggagggttt	atcttttcat	cctaggtcag	gtctacaatg	180
ggggaagggt	ttattataga	actcccaaca	gccacactca	ctcctgccac	ccacccgatg	240
gccctgcctc	c					251

<210> 349

<211> 251

<212> DNA

<213> Homo sapien

<400> 349

taaaaatcaa	gccattttaat	tgtatctttg	aaggtaaaca	atatatggga	gctggatcac	60
aacccttgag	gatgccagag	ctatgggtcc	agaacatggt	gtggtattat	caacagagtt	120
cagaagggtc	tgaactctac	gtgttaccag	agaacataat	gcaattcatg	cattccactt	180
agcaattttg	taaaatacca	gaaacagacc	ccaagagtct	ttcaagatga	ggaaaattca	240
actcctgggt	t					251

<210> 350

<211> 908

<212> DNA

<213> Homo sapien

<400> 350

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agcccgcg	gtgaagctcg	ctgctttccc	tacctcctta	agtgactgcc	aaacgcccac	120
cggctggaat	tgtctgtgtt	atgatgacag	agaaaatgat	ctcttctct	gtgacaccaa	180
cacctgtaaa	tttgatgggg	aatgtttaag	aattggagac	actgtgactt	gcgtctgtca	240
gttcaagtgc	aacaatgact	atgtgcctgt	gtgtggctcc	aatggggaga	gctaccagaa	300
tgagtgttac	ctgagacagg	ctgcatgcaa	acagcagagt	gagatacttg	tggtgtcaga	360
aggatcatgt	gccacagtcc	atgaaggctc	tggagaaact	agtcaaaagg	agacatccac	420
ctgtgatatt	tgccagtttg	gtgcagaatg	tgacgaagat	gccgaggatg	tctgggtgtg	480
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ttatgataat	gcatgccaaa	tcaaagaagc	atcgtgtcag	aaacaggaga	aaattgaagt	600
catgtctttg	ggtcgatgtc	aagataaacac	aactacaact	actaagctcg	aagatgggca	660

ttatgcaaga	acagattatg	cagagaatgc	taacaaatta	gaagaaagt	ccagagaaca	720
ccacatacct	tgtccggaac	attacaatgg	cttctgcatg	catgggaagt	gtgagcattc	780
tatcaatatg	caggagccat	cttgcaagg	tgatgctgg	tatactggac	aacactgtga	840
aaaaaaggac	tacagtgttc	tatacgttgt	tcccggctct	gtacgatttc	agtatgtctt	900
aatcgcag						908

<210> 351
 <211> 472
 <212> DNA
 <213> Homo sapien

<400> 351						
ccagttat	gcaagtgg	agagcctatt	taccataaat	aataactaaga	accaactcaa	60
gtcaaacctt	aatgccattg	ttattgtgaa	ttaggattaa	gtagtaattt	tcaaaattca	120
cattaacttg	attttaaaat	cagwtttgyg	agtcatttac	cacaagctaa	atgtgtacac	180
tatgataaaa	acaaccattg	tattcctgtt	tttctaaaca	gtcctaattt	ctaacactgt	240
atatatcctt	cgacatcaat	gaactttgtt	ttcttttact	ccagtaataa	agtaggcaca	300
gatctgtcca	caacaaactt	gccctctcat	gccttgccct	tcaccatgct	ctgctccagg	360
tcagccccct	tttggcctgt	ttgttttgtc	aaaaacctaa	tctgcttctt	gcttttcttg	420
gtaatatata	tttagggaag	atgttgcttt	gcccacacac	gaagcaaagt	aa	472

<210> 352
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 352						
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tgtggataag	gccaggtcaa	tggctgcaag	catgcagaga	aagaggtaca	tcggagcgtg	120
caggctgcgt	tccgtcctta	cgatgaagac	cacgatgcag	tttccaaaca	ttgccactac	180
atacatggaa	aggaggggga	agccaaccca	gaaatgggct	ttctctaata	ctgggataacc	240
aataagcaca	a					251

<210> 353
 <211> 436
 <212> DNA
 <213> Homo sapien

<400> 353						
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cacattatgg	tattattact	atactgatta	tatttatcat	gtgacttcta	attaraaaat	120
gtatccaaaa	gcaaaacagc	agatatacaa	aattaaagag	acagaagata	gacattaaca	180
gataaggcaa	cttatacatt	gacaatccaa	atccaataca	tttaaacatt	tgggaaatga	240
gggggacaaa	tgggaagccar	atcaaatttg	tgtaaaacta	ttcagtatgt	ttcccttgct	300
tcatgtctga	raaggctctc	ccttcaatgg	ggatgacaaa	ctccaaatgc	cacacaaatg	360
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gggctcctaa	tgtagt					436

<210> 354
 <211> 854
 <212> DNA
 <213> Homo sapien

<400> 354						
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caagtctgaa	accaaatacta	ggaaacatag	gaaacgagcc	aggcacaggg	ctgggtgggc	120
atcaggggacc	accctttggg	ttgatatttt	gcttaatctg	catcttttga	gtaagatcat	180
ctggcagtag	aagctgttct	ccagggtacat	ttctctagct	catgtacaaa	aacatcctga	240
aggactttgt	cagggtgcctt	gctaaaagcc	agatgcgttc	ggcacttcct	tgggtctgagg	300
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gtgagtga	gaatccccatt	ataggagcac	ttgggagaga	tcataataaa	gctgactctt	420
gagtacatgc	agtaatgggg	tagatgtgtg	tgggtgtgtct	tcattcctgc	aagggtgctt	480

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tgaactggaa	aactaattca	aaagagagat	cgtgatatca	gtgtggttga	tacaccttgg	600
caatatggaa	ggctctaatt	tgcccatatt	tgaataata	attcagcttt	ttgtaataca	660
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<210> 355
 <211> 676
 <212> DNA
 <213> Homo sapien

<400> 355						
gaaattaagt	atgagctaaa	ttccctgtta	aaacctctag	gggtgacaga	tctcttcaac	60
cagggtcaaag	ctgatctttc	tggaatgtca	ccaaccaagg	gcctatattt	atcaaaagcc	120
atccacaagt	catacctgga	tgtcagcgaa	gagggcacgg	aggcagcagc	agccactggg	180
gacagcatcg	ctgtaaaaag	cctaccaatg	agagctcagt	tcaaggcgaa	ccacccttc	240
ctgttcttta	taaggcacac	tcataccaac	acgatcctat	tctgtggcaa	gcttgccctc	300
ccctaatcag	atggggttga	gtaaggctca	gagttgcaga	tgaggtgcag	agacaatcct	360
gtgactttcc	cacggccaaa	aagctgttca	cacctcacgc	acctctgtgc	ctcagtttgc	420
tcactcgcaa	aataggtcta	ggatttcttc	caaccatttc	atgagttgtg	aagctaaggc	480
tttggttaatc	atggaaaaag	gtagacttat	gcagaaagcc	tttctggctt	tcttatctgt	540
ggtgtctcat	ttgagtgtctg	tccagtgaca	tgatcaagtc	aatgagtaaa	attttaaggg	600
attagatttt	cttgacttgt	atgtatctgt	gagatcttga	ataagtgacc	tgacatctct	660
gcttaaagaa	aaccag					676

<210> 356
 <211> 574
 <212> DNA
 <213> Homo sapien

<400> 356						
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catgtggcac	ctgactggca	tcaaaccaaa	gttcgtaggc	caacaaagat	gggccactca	120
caagcttccc	atttgtagat	ctcagtgcc	atgagtatct	gacacctgtt	cctctcttca	180
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aaaagtccac	aaaactgcag	tctttgctgg	gatagtaagc	caagcagtgc	ctggacagca	300
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agatacaagc	tcgtttacat	gtgatagatc	taacaaaggc	atctaccgaa	gtctggtctg	480
gatagacggc	acaggagcct	cttaggtcag	cgctgctgg	tggaggacat	tcctgagtc	540
agctttgcag	cctttgtgca	acagtacttt	ccca			574

<210> 357
 <211> 393
 <212> DNA
 <213> Homo sapien

<400> 357						
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taatattgkg	kcttggtcac	tataactaaa	aatgcaccac	tcataaatat	ttaattcagc	120
aagccacaac	caaracttga	ttttatcaac	aaaaaccctt	aaatataaac	ggsaaaaaag	180
atagatataa	ttattccagt	ttttttaaaa	cttaaaaarat	attccattgc	cgaattaara	240
araarataag	tgttatatgg	aaagaagggc	attcaagcac	actaaaraaa	cctgaggkaa	300
gcataatctg	tacaaaatta	aactgtcctt	tttggcattt	taacaaattt	gcaacgktct	360
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<210> 358
 <211> 630
 <212> DNA
 <213> Homo sapien

<400> 358

acagggtaaa	caggaggatc	cttgctctca	cggagcttac	attctagcag	gaggacaata	60
ttaatgttta	taggaaaatg	atgagtttat	gacaaaggaa	gtagatagtg	ttttacaaga	120
gcatagagta	gggaagctaa	tccagcacag	ggaggtcaca	gagacatccc	taagggaagt	180
gagtttaaac	tgagagaagc	aagtgcctaa	actgaaggat	gtgttgaa	agaagggaga	240
gtagaacaat	ttgggcagag	ggaaccttat	agaccctaag	gtgggaaggt	tcaaagaact	300
gaaagagagc	tagaacagct	ggagccgttc	tccggtgtaa	agaggagtca	aagagataag	360
attaaagatg	tgaagattaa	gatcttggtg	gcattcaggg	attggcactt	ctacaagaaa	420
tactgaagg	gagtaatgtg	acattacttt	tcaactcagg	atggccattc	taactccagg	480
gggtagactg	gactaggtaa	gactggaggc	aggtagacct	cttctaaggc	ctgcgatagt	540
gaaagacaaa	aataagtggg	gaaattcagg	ggatagtga	aatcagtagg	acttaatgag	600
caagccagag	gttcctccac	aacaaccagt				630

<210> 359

<211> 620

<212> DNA

<213> Homo sapien

<400> 359

acagcattcc	aaaatataca	tctagagact	aarrgtaaat	gctctatagt	gaagaagtaa	60
taattaaaaa	atgctactaa	tatagaaaat	ttataatcag	aaaaataaat	attcagggag	120
ctcaccagaa	gaataaagt	ctctgccagt	tattaaagga	ttactgctgg	tgaattaaat	180
atggcattcc	ccaagggaaa	tagagagatt	cttctggatt	atgttcaata	tttatttcac	240
aggattaaat	gttttaggaa	cagatataaa	gcttcgccac	ggaagagatg	gacaaagcac	300
aaagacaaca	tgatacctta	ggaagcaaca	ctaccctttc	aggcataaaa	tttgagaaa	360
tgcaacatta	tgcttcatga	ataatatgta	gaaagaaggt	ctgatgaaaa	tgacatcctt	420
aatgtaagat	aactttataa	gaattctggg	tcaaatataa	ttctttgaag	aaaacatcca	480
aatgtcattg	acttatcaaa	tactatcttg	gcataatacc	tatgaaggca	aaactaaaca	540
aacaaaaagc	tcacacaaa	caaaaccatc	aacttatttt	gtattctata	acatacgaga	600
ctgtaaaagt	gtgacagtgt					620

<210> 360

<211> 431

<212> DNA

<213> Homo sapien

<400> 360

aaaaaaaaaa	agccagaaca	acatgtgata	gataaatatga	ttggctgcac	acttccagac	60
tgatgaatga	tgaacgtgat	ggactattgt	atggagcaca	tcttcagcaa	gaggggggaaa	120
tactcatcat	ttttggccag	cagttgtttg	atcaccaaac	atcatgccag	aatactcagc	180
aaaccttctt	agctcttgag	aagtcaaat	ccgggggaat	ttattcctgg	caattttaat	240
tggactcctt	atgtgagagc	agcggctacc	cagctggggg	ggtggagcga	accggtcact	300
agtggacatg	cagtggcaga	gctcctggta	accacctaga	ggaatacaca	ggcacatgtg	360
tgatgccaa	cgtgacacct	gtagcactca	aatttgtctt	gtttttgtct	ttcgggtgtg	420
agattcttag	t					431

<210> 361

<211> 351

<212> DNA

<213> Homo sapien

<400> 361

acactgattt	ccgatcaaaa	gaatcatcat	ctttaccttg	acttttcagg	gaattactga	60
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ttgggtcctc	tggtctcttg	ccaagtttcc	cagccactcg	agggagaaat	atcgggaggt	180
ttgacttctt	ccggggcttt	cccgaggggt	tcaccgtgag	ccctgcggcc	ctcagggctg	240
caatcctgga	ttcaatgtct	gaaacctcgc	tctctgcctg	ctggacttct	gaggccgtca	300
ctgccactct	gtcctccagc	tctgacagct	cctcatctgt	ggtcctgttg	t	351

<210> 362

<211> 463

<212> DNA

<213> Homo sapien

<400> 362

acttcatcag	gccataatgg	gtgcctcccg	tgagaatcca	agcacctttg	gactgcgcga	60
tgtagatgag	ccggctgaag	atcttgcgca	tgcgcggtt	cagggcggaag	ttcttggcgc	120
ccccggtcac	agaaatgacc	aggttgggtg	ttttcagggtg	ccagtgtctg	gtcagcagct	180
cgtaaaggat	ttccgcgtcc	gtgtcgcagg	acagacgtat	atacttcctt	ttcttcccca	240
gtgtctcaaa	ctgaatatcc	ccaaaggcgt	cggtaggaaa	ttccttgggtg	tgtttcttgt	300
agttccattt	ctcacttttg	ttgatctggg	tgcttcccat	gtgctggctc	tgggcatagc	360
cacacttgca	cacattctcc	ctgataagca	cgatggtgtg	gacaggaagg	aaggatttca	420
ttgagcctgc	ttatggaaac	tggtattgtt	agcttaaata	gac		463

<210> 363

<211> 653

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(653)

<223> n = A,T,C or G

<400> 363

acccccgagt	ncctgnctgg	catactgnga	acgaccaacg	acacacccaa	gctcggcctc	60
ctcttgngga	ttctgggtga	catcttcatg	aatggcaacc	gtgccagwga	ggctgtcctc	120
tgggaggcac	tacgcaagat	gggactgcgt	cctgggggtga	gacatcctct	ccttgagat	180
ctaacgaaac	ttctcaccta	tgagttgtaa	agcagaaata	cctgnactac	agacgagtgc	240
ccaacagcaa	ccccccggaa	gtatgagttc	ctctrgggcc	tccgttccta	ccatgagasc	300
tagcaagatg	naagtgttga	gantcattgc	agaggttcag	aaaagagacc	cntcgtgact	360
ggtctgcaca	gttcatggag	gctgcagatg	aggccttgga	tgctctggat	gctgctgcag	420
ctgaggccga	agcccgggct	gaagcaagaa	cccgcattggg	aattggagat	gaggctgtgt	480
ntgggccctg	gagctgggat	gacattgagt	ttgagctgct	gacctgggat	gaggaaggag	540
attttgagga	tcnctggtcc	agaattccat	ttaccttctg	ggccagatac	caccagaatg	600
cccgtccag	attccctcag	acctttgccg	gtcccattat	tggtcstggt	ggt	653

<210> 364

<211> 401

<212> DNA

<213> Homo sapien

<400> 364

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acaaagccaa	tgaatgactc	taaaaacaat	atttacattt	aatgggtttgt	agacaataaa	120
aaaacaaggt	ggatagatct	agaattgtaa	cattttaaga	aaaccatagc	atttgacaga	180
tgagaaagct	caattataga	tgcaaagtta	taactaaact	actatagtag	taaagaaata	240
catttcacac	ccttcatata	aattcactat	cttggttgga	ggcactccat	aaaatgtatc	300
acgtgcatag	taaatcttta	tatttgctat	ggcgttgac	tagaggactt	ggactgcaac	360
aagtggatgc	gcggaaaatg	aaatcttctt	caatagccca	g		401

<210> 365

<211> 356

<212> DNA

<213> Homo sapien

<400> 365

ccagtgtcat	atttgggctt	aaaatttcaa	gaagggcact	tcaaatggct	ttgcatttgc	60
atgtttcagt	gctagagcgt	aggaatagac	cctggcgctc	actgtgagat	gttcttcagc	120
taccagagca	tcaagtctct	gcagcaggtc	attcttgggt	aaagaaatga	cttccacaaa	180
ctctccatcc	cctggctttg	gcttcggcct	tgcgttttcg	gcatcatctc	cgtaaatggt	240
gactgtcacg	atgtgtatag	tacagtttga	caagcctggg	tccatacaga	ccgctggaga	300
acattcggca	atgtcccctt	tgtagccagt	ttcttcttcg	agctcccgga	gagcag	356

<210> 366
 <211> 1851
 <212> DNA
 <213> Homo sapien

<400> 366

tcataccat	tgccagcagc	ggcaccgtta	gtcagggtttt	ctgggaatcc	cacatgagta	60
cttccgtgtt	cttcattctt	cttcaatagc	cataaatctt	ctagctctgg	ctggctgttt	120
tcacttcctt	taagcctttg	tgactcttcc	tctgatgtca	gctttaagtc	ttgttctgga	180
ttgctgtttt	cagaagagat	ttttaacatc	tggttttctt	tgtagtcaga	aagtaactgg	240
caaattacat	gatgatgact	agaaacagca	tactctctgg	ccgtctttcc	agatcttgag	300
aagatacatc	aacattttgc	tcaagtagag	ggctgactat	acttgctgat	ccacaacata	360
cagcaagtat	gagagcagtt	cttccatata	tatccagcgc	atttaaattc	gcttttttct	420
tgattaaaaa	tttcaccact	tgctgttttt	gctcatgtat	accaagtagc	agtgggtgtga	480
ggccatgctt	gttttttgat	tccgatatac	caccgtataa	gagcagtgct	ttggccatta	540
atztatcttc	attgtagaca	gcatagtgta	gagtgggtatt	tccatactca	tctggaatat	600
ttggatcagt	gccaatgttc	agcaacatta	acgcacattc	atcttctctg	cattgtacgg	660
cctttgtcag	agctgtcctc	ttttgtttgt	caaggacatt	aagttgacat	cgtctgtcca	720
gcacgagttt	tactacttct	gaattcccat	tggcagaggg	cagatgtaga	gcagtcctct	780
tttgcttgct	cctctgttct	acatccgtgt	ccctgagcat	gacgatgaga	tcctttctgg	840
ggactttacc	ccaccaggga	gctctgtgga	gcttggtccg	atcttctcca	tggacgtggg	900
acctgggcat	catgaaggcg	ctgtcatcgt	agtctcccca	agcgaccacg	ttgctcttgc	960
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cagccatcaa	acttctggac	agcaggtcac	ttccagcaag	gtggagaaag	ctgtccaccc	1200
acagaggatg	agatccagaa	accacaatat	ccattcacaa	acaaacactt	ttcagccaga	1260
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aatataaatt	tcctctggag	ccatatggat	gaactatgaa	ggaagaactc	cccgaagaag	1440
ccagtcgcag	agaagccaca	ctgaagctct	gtcctcagcc	atcagcgcca	cggacaggar	1500
tgtgtttctt	ccccagtgat	gcagcctcaa	gttatcccca	agctgccgca	gcacacgggtg	1560
gtccttgaga	aacaccccag	ctcttccggg	ctaacacagg	caagtcaata	aatgtgataa	1620
tcacataaac	agaattaaaa	gcaaagtcac	ataagcatct	caacagacac	agaaaaggca	1680
tttgacaaaa	tccagcatcc	ttgtatttat	tggtgcagtt	ctcagaggaa	atgcttctaa	1740
cttttcccca	tttagtatta	tggtggctgt	gggcttgtca	taggtgggtt	ttattacttt	1800
aaggtatgtc	ccttctatgc	ctgttttgc	gagggtttta	attctcgtgc	c	1851

<210> 367
 <211> 668
 <212> DNA
 <213> Homo sapien

<400> 367

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ttcagtat	tgaagataaa	attrgtagat	ctataccttg	ttttttgatt	cgatatcagc	120
accrtataag	agcagtgctt	tgccatttaa	tttatctttc	atrttagaca	gcrtagtgya	180
gagtgggtatt	tccatactca	tctggaatat	ttggatcagt	gccatgttcc	agcaacatta	240
acgcacattc	atcttctctg	cattgtacgg	cctgtcagta	ttagacccaa	aaacaaatta	300
catatcttag	gaattcaaaa	taacattcca	cagctttcac	caactagtta	tatttaaagg	360
agaaaactca	tttttatgcc	atgtattgaa	atcaaaccce	cctcatgctg	atatagttgg	420
ctactgcata	cctttatcag	agctgtcctc	ttttgttgt	caaggacatt	aagttgacat	480
cgtctgtcca	gcaggagttt	tactacttct	gaattcccat	tggcagaggg	cagatgtaga	540
gcagtcctat	gagagtgaga	agacttttta	ggaaattgta	gtgcactagc	tacagccata	600
gcaatgattc	atgtaactgc	aaacactgaa	tagcctgcta	ttactctgcc	ttcaaaaaaa	660
aaaaaaaa						668

<210> 368
 <211> 1512
 <212> DNA
 <213> Homo sapien

<400> 368

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ttcaaacaga	ttggaaaccc	ggagttacct	gctagttggt	gaaactgggt	ggtagacgcg	180
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tccatgccgg	ctgcttcttc	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
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ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
cactgcttcc	cctgctgcag	ggggagtggc	aagagcaacg	tgggcgcttc	tggagaccac	480
gacgaytctg	ctatgaagac	actcaggaac	aagatgggca	agtgggtgctg	ccactgcttc	540
ccctgctgca	gggggagcrg	caagagcaag	gtgggcgctt	ggggagacta	cgatgacagt	600
gccttcatgg	agcccaggta	ccacgtccgt	ggagaagatc	tggacaagct	ccacagagct	660
gcctgggtgg	gtaaaagtccc	cagaaaggat	ctcatcgtca	tgctcaggga	cactgacgtg	720
aacaagaagg	acaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgctg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
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gaaaacactg	aatttgtaaa	aggtaatatc	tactattttt	caatttttcc	ctcctaggat	1320
ttttttcccc	taatgaatgt	aagatggcaa	aatttgcctt	gaaataggtt	ttacatgaaa	1380
actccaagaa	aagttaaaca	tgtttcagtg	aatagagatc	ctgctccttt	ggcaagttcc	1440
taaaaaacag	taatagatac	gaggtgatgc	gcctgtcagt	ggcaagggtt	aagatatattc	1500
tgatctcgtg	cc					1512

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

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ttcaaacaga	ttggaaaccc	ggagttacct	gctagttggt	gaaactgggt	ggtagacgcg	180
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tccatgccgg	ctgcttcttc	tgtgaagaag	ccatttggtc	tcaggagcaa	gatgggcaag	300
tggtgctgcc	gttgcttccc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
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gccttcatgg	akcccaggta	ccacgtccrt	ggagaagatc	tggacaagct	ccacagagct	660
gcctgggtgg	gtaaaagtccc	cagaaaggat	ctcatcgtca	tgctcaggga	cackgaygtg	720
aacaagargg	acaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgctg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	agcatggcct	cacaccactg	ytacttggtr	tacatgagca	aaaacagcaa	1080
gtsgtgaaat	ttttaatyaa	gaaaaaagcg	aattttaaatt	gcrctggata	gatatgggaag	1140
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gcaaaatrtt	gatgtatctt	ctcaagatct	ggaaagacga	ccagagagta	tgctgtttct	1260
agtcatcatc	atgtaatttg	ccagttactt	ctcgtatcga	aagaaaaaca	gatgttataa	1320
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caaaggctta	aaggaagtga	aaacagccag	ccagaggcat	ggaaactttt	aaatttaaac	1440
ttttggttta	atgttttttt	tttttgcctt	aataatatta	gatagtccca	aatgaaatwa	1500
cctatgagac	taggctttga	gaatcaatag	attctttttt	taagaatctt	ttggctagga	1560
gcgggtgtctc	acgcctgtaa	ttccagcacc	ttgagaggct	gaggtgggca	gatcacgaga	1620

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ggagaatggc	atgaacccgg	gaggtggagg	ttgcagttag	ccgagatccg	ccactacact	1800
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<210> 370
 <211> 2184
 <212> DNA
 <213> Homo sapien

<400> 370

ggcacgagaa	ttaaaaccct	cagcaaaaaca	ggcatagaag	ggacatacct	ttaaagtaata	60
aaaaccacct	atgacaagcc	cacagccaac	ataatactaa	atgggggaaaa	gttagaagca	120
tttcctctga	gaactgcaac	aataaaataca	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgctta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
ttattgactt	gcctgtgtta	gaccggaaga	gctgggggtg	ttctcaggag	ccaccgtgtg	300
ctgcggcagc	ttcgggataa	cttgaggctg	catcactggg	gaagaaacac	aytcctgtcc	360
gtggcgctga	tggctgagga	cagagcttca	gtgtggcttc	tctgcgactg	gcttcttcgg	420
ggagttcttc	cttcatagtt	catccatatg	gctccagagg	aaaattatat	tattttgtta	480
tggatgaaga	gtattacgtt	gtgcagatat	actgcagtgt	cttcatctct	tgatgtgtga	540
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atggagaaga	tctggacaag	ctccacagag	ctgcctgggt	gggttaaagtc	cccagaaagg	1020
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ctctacatct	ggcctctgcc	aatgggaatt	cagaagtagt	aaaactcgtg	ctggacagac	1140
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cgaatttaaa	tgcgctggat	agatatggaa	gaactgctct	catacttgct	gtatgtttgtg	1500
gatcagcaag	tatagtcagc	cctctacttg	agcaaaatgt	tgatgtatct	tctcaagatc	1560
tggaaagacg	gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	1620
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gccagaggca	tggaaacttt	taaatttaaa	cttttgggtt	aatgtttttt	ttttttgcct	1800
taataatatt	agatagtccc	aaatgaaatw	acctatgaga	ctaggctttg	agaatcaata	1860
gattcttttt	ttaagaatct	tttggctagg	agcgggtgtct	cacgcctgta	attccagcac	1920
cttgagaggc	tgaggtgggc	agatcacgag	atcaggagat	cagagaccatc	ctggctaaca	1980
cgggtgaaacc	ccatctctac	taaaaataca	aaaacttagc	tgggtgtggt	ggcgggtgcc	2040
tgtagtccca	gctactcagg	argctgaggc	aggagaatgg	catgaacccg	ggaggtggag	2100
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ctcaaaaaaa	aaaaaaaaaa	aaaa				2184

<210> 371
 <211> 1855
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1855)
 <223> n = A,T,C or G

<400> 371

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gccgcccccg	cataaccgtc	agactggcct	gtaacggctt	gcaggcgcac	gccgcacgcg	180
cgtaacggct	tggtgcct	gtaacggctt	gcacgtgcat	gctgcacgcg	cgtaacggc	240
ttggtggca	tgtagccgt	tggttggt	ttgcattyt	tgctkggctk	ggcggtgkty	300
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gggcgtggg	tttccccggg	tggtgtggg	ttttcctggg	gtgggggtgg	ctgtgctggg	540
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gtaacntgct	agttggtgaa	actggttgg	agacgcgatc	tgctggtact	actgtttctc	660
ctggctgtta	aaagcagatg	gtggctgagg	ttgattcaat	gccggctgct	tcttctgtga	720
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tgtaagatgg	caaaatttgc	cctgaaatag	gttttacatg	aaaactccaa	gaaaagttaa	1740
acatgtttca	gtgaatagag	atcctgctcc	tttggaagt	tcctaaaaaa	cagtaataga	1800
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<210> 372

<211> 1059

<212> DNA

<213> Homo sapien

<400> 372

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gcgcttgrgg	agactmcgat	gacagygcct	tcatggagcc	caggtaccac	gtccgtggag	180
aagatctgga	caagctccac	agagctgccc	tggtggggta	aagtccccag	aaaggatctc	240
atcgatcatg	tcaggggacac	tgaygtgaac	aagarggaca	agcaaaaagag	gactgctcta	300
catctggcct	ctgccaatgg	gaattcagaa	gtagtataaac	tcstgctgga	cagacgatgt	360
caacttaata	tccttgacaa	caaaaagagg	acagctctga	yaaaggccgt	acaatgccag	420
gaagatgaat	gtgcgttaat	gttgctggaa	catggcactg	atccaaatat	tccagatgag	480
tatggaaata	ccactctrca	ctaygctrtc	tayaatgaag	ataaattaat	ggccaaagca	540
ctgctcttat	ayggtgctga	tatcgaatca	aaaaacaagg	tatagatcta	ctaattttat	600
cttcaaaata	ctgaaatgca	ttcattttaa	cattgacgtg	tgtaaggggc	agtcttccgt	660
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<210> 373

<211> 1155

<212> DNA

<213> Homo sapien

<400> 373

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agcaacgtgg	gcacttctgg	agaccacgac	gactctgcta	tgaagacact	caggagcaag	180
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ggcgcttctg	gagaccacga	cgactctgct	atgaagacac	tcaggaacaa	gatgggcaag	300
tggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	ggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	cccaggtacc	acgtccgtgg	agaagatctg	420
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ctggatagat	atggaaggac	tgctctcata	cttgctgtat	gttggtggatc	agcaagtata	960
gtcagccttc	tacttgagca	aaatattgat	gtatcttctc	aagatctatc	tggacagacg	1020
gccagagagt	atgctgtttc	tagtcatcat	catgtaattt	gccagttact	ttctgactac	1080
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<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

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tggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	ggcgcttgg	360
ggagactacg	atgacagtgc	cttcatggag	cccaggtacc	acgtccgtgg	agaagatctg	420
gacaagctcc	acagagctgc	ctggtgggg	aaagtcccca	gaaaggatct	catcgtcatg	480
ctcagggaca	ctgacgtgaa	caagaaggac	aagcaaaaga	ggactgctct	acatctggcc	540
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<210> 375

<211> 2040
 <212> DNA
 <213> Homo sapien

<400> 375

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<210> 376
 <211> 329
 <212> PRT
 <213> Homo sapien

<400> 376

Met	Asp	Ile	Val	Val	Ser	Gly	Ser	His	Pro	Leu	Trp	Val	Asp	Ser	Phe
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			20					25					30		
Glu	Tyr	Thr	Ile	Val	His	Ala	Ser	Phe	Ile	Ser	Cys	Ile	Ser	Ser	Ser
		35					40					45			
Leu	Asp	Gly	Gln	Gly	Glu	Arg	Gln	Glu	Gln	Arg	Gly	His	Phe	Trp	Arg
	50					55				60					
Pro	Gln	Arg	Leu	Leu	Cys	Glu	Asp	Ala	Trp	Glu	Gln	Glu	Val	Gln	Val
65					70				75					80	
Val	Leu	Pro	Leu	Leu	Pro	Leu	Leu	Gln	Gly	Ser	Gly	Lys	Ser	Asn	Val
			85					90						95	
Val	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe	Met	Asp	Pro	Arg	Tyr
			100					105					110		
His	Val	His	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp
			115				120					125			

116

Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
 130 135 140
 Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
 145 150 155 160
 Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
 165 170 175
 Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
 180 185 190
 Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
 195 200 205
 Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
 210 215 220
 Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
 225 230 235 240
 Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
 245 250 255
 Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
 260 265 270
 Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
 275 280 285
 Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu
 290 295 300
 Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu
 305 310 315 320
 Ser Met Leu Phe Leu Val Ile Ile Met
 325

<210> 377
 <211> 148
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(148)
 <223> Xaa = Any Amino Acid

<400> 377
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 Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys
 20 25 30
 Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
 35 40 45
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
 50 55 60
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
 65 70 75 80
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
 85 90 95
 Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 110
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Tyr Gly Ala Asp Ile Glu Ser
 130 135 140
 Lys Asn Lys Val
 145

<210> 378
 <211> 1719
 <212> PRT

<213> Homo sapien

<400> 378

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			20					25					30		
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp
		35					40					45			
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
	50					55					60				
Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val
65					70					75				80	
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn
				85					90					95	
Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser
			100					105					110		
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe
		115					120					125			
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His
	130					135					140				
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met
145					150					155				160	
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala
				165					170					175	
Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	Val	Lys	Leu	Leu
			180				185						190		
Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr
	195						200					205			
Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met
	210					215					220				
Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn
225					230					235				240	
Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys
				245					250					255	
Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	Asn	Lys	His	Gly
			260				265						270		
Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	Gln	Gln	Val	Val
		275					280					285			
Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr
	290					295					300				
Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile
305					310					315				320	
Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	Ser	Gln	Asp	Leu
				325					330					335	
Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	His	His	His	Val
			340					345					350		
Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile
	355						360					365			
Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Asn	Val	Ser	Arg	Thr	Arg	Asn	Lys
	370					375					380				
Pro	Arg	Thr	His	Met	Val	Val	Glu	Val	Asp	Ser	Met	Pro	Ala	Ala	Ser
385					390					395				400	
Ser	Val	Lys	Lys	Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys
				405					410					415	
Cys	Arg	Cys	Phe	Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly
			420					425					430		
Thr	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys
		435					440					445			
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	450					455					460				
Lys	Ser	Asn	Val	Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys

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 Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys
 485 490 495
 Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp
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 Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu
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 Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp
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 Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val
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 Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu
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 Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys
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 Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys
 660 665 670
 Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala
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 Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly
 690 695 700
 Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser
 705 710 715 720
 Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser
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 His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln
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 Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser
 770 775 780
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 Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser
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 885 890 895
 Glu Gly Ser Glu Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile
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 Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro
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 Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu
 945 950 955 960
 Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe

Cys	Glu	Glu	Gln	Asn	Thr	Gly	Ile	Leu	His	Asp	Glu	Ile	Leu	Ile	His	
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Glu	Glu	Lys	Gln	Ile	Glu	Val	Val	Glu	Lys	Met	Asn	Ser	Glu	Leu	Ser	
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Arg	Glu	Glu	Ile	Ala	Met	Leu	Arg	Leu	Glu	Leu	Asp	Thr	Met	Lys	His	
1025				1030						1035					104	
Gln	Ser	Gln	Leu	Pro	Arg	Thr	His	Met	Val	Val	Glu	Val	Asp	Ser	Met	
				1045					1050					1055		
Pro	Ala	Ala	Ser	Ser	Val	Lys	Lys	Pro	Phe	Gly	Leu	Arg	Ser	Lys	Met	
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Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	
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Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val	Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	
				1125					1130					1135		
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Asn	Ser	Glu	Val	Val	Lys	Leu	Leu	Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	
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Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr	Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	
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Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met	Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	
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Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn	Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	
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Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys	Ala	Leu	Leu	Leu	Tyr	Gly	Ala		

120

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 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser
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 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser
 1555 1560 1565
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 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro
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 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile
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 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn
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 Met Lys His Gln Ser Gln Leu
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 <213> Homo sapien

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 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
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 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175

Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
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 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
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 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
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 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
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 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
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 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
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 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
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 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
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 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
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 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
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 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
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 515 520 525
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
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 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
 545 550 555 560
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
 565 570 575
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
 580 585 590
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
 595 600 605
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
 610 615 620
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 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
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<211> 671
 <212> PRT
 <213> Homo sapien

<400> 380

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			20					25					30		
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp
		35					40					45			
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
	50					55					60				
Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val
65					70					75				80	
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn
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Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser
			100					105					110		
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe
	115						120					125			
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His
	130					135					140				
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met
145					150					155				160	
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala
				165					170					175	
Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	Val	Lys	Leu	Leu
		180					185						190		
Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr
	195						200					205			
Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met
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Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn
225					230					235					240
Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys
				245					250					255	
Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	Asn	Lys	His	Gly
		260					265						270		
Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	Gln	Gln	Val	Val
		275					280					285			
Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr
	290					295					300				
Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile
305					310					315					320
Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	Ser	Gln	Asp	Leu
				325					330					335	
Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	His	His	His	Val
			340					345					350		
Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile
	355						360					365			
Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu
	370					375					380				
Glu	Glu	Ser	Gln	Arg	Phe	Lys	Gly	Ser	Glu	Asn	Ser	Gln	Pro	Glu	Lys
385					390					395					400
Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly	Asp	Arg	Glu	Val	Glu
				405					410					415	
Glu	Glu	Met	Lys	Lys	His	Glu	Ser	Asn	Asn	Val	Gly	Leu	Leu	Glu	Asn
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Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly	Asn	Gly	Asp	Asn	Gly	Leu	Ile	Pro
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Gln	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Asn	Gln	Gln	Phe	Pro	Asp	Asn	Glu

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Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu				
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Asn Gly Gln Pro Glu Lys Arg Ser Gln Glu Pro Glu Ile Asn Lys Asp				
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Gly Asp Arg Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys Lys				
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His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly Ala				
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Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser Arg				
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Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr His				
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Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln Asn				
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Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln Ile				
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Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala				
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tagccataga gattcacagc ccagagcagg aggacgctgc acaccatgca ggatgacatg 2940
ggggatgcgc tcgggatttg tgtgaagaag caaggactgt tagaggcagg ctttatagta 3000
acaagacggt ggggcaaact ctgatttccg tgggggaatg tcatggtctt gctttactaa 3060
gttttgagac tggcaggtag tgaaactcat taggctgaga accttgtgga atgcagctga 3120
cccagctgat agaggaagta gccaggtggg agcctttccc agtgggtgtg ggacatatct 3180
ggcaagattt tgtggcactc ctggttacag atactggggc agcaaataaa actgaatctt 3240
gttttcagac cttaaaaaaa aaaaaaaaaa aaaagtttt 3279

```

<210> 383

<211> 155

<212> PRT

<213> Homo sapiens

<400> 383

Met Ala Gly Val Arg Asp Glr Gly Gln Gly Ala Arg Trp Pro His Thr
5 10 15

Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
20 25 30

His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
35 40 45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
50 55 60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
65 70 75 80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala

125

	85		90		95										
Trp	Ala	Leu	Thr	Gln	Pro	Pro	Ser	Gln	Ser	Pro	Gly	Pro	Gln	Ser	Leu
	100							105					110		
Pro	Ser	Thr	Pro	Ser	Ser	Ile	Trp	Pro	Gln	Trp	Val	Ile	Leu	Ile	Thr
	115						120					125			
Glu	Leu	Thr	Ile	Pro	Ser	Pro	Ala	His	Gly	Pro	Pro	Trp	Leu	Pro	Asn
	130						135					140			
Ala	Leu	Glu	Arg	Gly	His	Leu	Val	Arg	Glu						
145						150									

<210> 384
 <211> 557
 <212> DNA
 <213> Homo sapiens

<400> 384
 ggatcctcta gagcgggcgc ctactactac taaattcgcg gccgcgtcga cgaagaagag 60
 aaagatgtgt tttgttttgg actctctgtg gtcccttcca atgctgtggg tttccaacca 120
 ggggaagggt cccttttgca ttgccaagtg ccataaccat gagcactact ctaccatggt 180
 tctgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgattc tacagctagg 240
 acttaacctt gaaatggaaa gtcttgcaat cccatttgca ggatccgtct gtgcacatgc 300
 ctctgtagag agcagcattc ccagggacct tggaaacagt tggcactgta aggtgcttgc 360
 tccccaaagac acatcctaata aggtgttgta atgggtgaaaa cgtcttcctt ctttattgcc 420
 cttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaaagt 480
 tcaattgtga aaatgaatat catgcaaata aattatgcga ttttttttcc aaagtaaaaa 540
 aaaaaaaaa aaaaaaa 557

<210> 385
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 385
 ttcccagggt atgtgcgagg gaagacacat ttactatcct tgatggggct gattccttta 60
 gtttctctag cagcagatgg gttaggagga agtgacccaa gtgggttgact cctatgtgca 120
 tctcaaagcc atctgctgtc ttcgagtacg gacacatcat cactcctgca ttgttgatca 180
 aaacgtggag gtgcttttcc tcagctaaga agcccttagc aaaagctcga atagacttag 240
 tatcagacag gtccagtttc cgcaccaaca cctgctggtt ccctgtcgtg gtctggatct 300
 ctttgccac caattcccc ttttccacat cccggca 337

<210> 386
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 386
 gggcccgcta ccggcccagg cccgcctcgc cgagtcctcc tccccgggtg cctgcccgca 60
 gcccgctcgg ccagaggggt gggcgcgggg ctgcctctac cggctggcgg ctgtaactca 120
 gcgaccttgg cccgaaggct ctagcaagga cccaccgacc ccagccgcgg cggcggcggc 180
 gcggactttg ccggtgtgt gggcgggagc ggactgcgtg tccgcggacg ggcagcgaag 240
 atgttagcct tcgctgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
 <211> 537
 <212> DNA
 <213> Homo sapiens

126

<400> 387
gggccgagtc gggcaccaag ggactctttg caggcttcct tcctcggatc atcaaggctg 60
ccccctcctg tgccatcatg atcagcacct atgagttcgg caaaagcttc ttccagaggc 120
tgaaccagga ccggcttctg ggcggtgaa aggggcaagg aggcaaggac cccgtctctc 180
ccacggatgg ggagagggca ggaggagacc cagccaagtg ccttttcctc agcactgagg 240
gagggggctt gtttcccttc cctcccggcg acaagctcca gggcagggtg gtccctctgg 300
gcggcccagc acttcctcag acacaacttc ttcttgctgc tccagtcgtg gggatcatca 360
cttaccacc cccaagtgc aagaccaa atctccagctg ccccttcgt gtttccctgt 420
gtttgctgta gctgggcatg tctccaggaa ccaagaagcc ctgagcctgg ttagtctctc 480
ctgacccttg ttaattcctt aagtctaaag atgatgaact tcaaaaaaaa aaaaaa 537

<210> 388

<211> 520

<212> DNA

<213> Homo sapiens

<400> 388
aggataattt ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60
tgagggttaa ccagtttgca ttccccta atgtgaaaaag taagaggact actcagcact 120
gtttgaagat tgccctctct acagcttctg agaatttgtt tatttcactt gccagtgaa 180
ggacccccct cccaacatgc cccagcccac ccctaagcat ggtcccttgt caccaggcaa 240
ccaggaaact gctacttgtg gacctcacca gagaccagga ggggtttggt agctcacagg 300
acttccccca cccagaaga ttagcatccc atactagact catactcaac tcaactaggc 360
tcatactcaa ttgatggtta ttagacaatt ccatttcttt ctggttatta taaacagaaa 420
atctttcctc ttctcattac cagtaaaggc tcttggtatc tttctgttgg aatgatttct 480
atgaacttgt cttattttta tgggtgggtt ttttctggt 520

<210> 389

<211> 365

<212> DNA

<213> Homo sapiens

<400> 389
cgttgcccc gtttgacaga aggaaaggcg gagcttattc aaagtctaga gggagtggag 60
gagttaaggc tggatttcag atctgcctgg ttccagccgc agtgtgccct ctgctcccc 120
aacgactttc caaataatct caccagcgcc ttccagctca ggcgtcctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctcaccgct ctgtcctcac agctgagact 240
cccagaaaac cttcagacta ccttcctctg ccttcagcaa ggggcgttgc ccacattctc 300
tgagggtcag tggaagaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
gggag 365

<210> 390

<211> 221

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(221)

<223> n = A,T,C or G

<400> 390
tgccctctcca tcctggcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
tacacggntt ctcatgggtg tggaacatct ctgcttgccg ttccaggaag gcctctggct 120
gctctangag tctgancong ntcgttgccc cantntgaca naaggaaagg cggagcttat 180
tcaaagtcta gagggagtgg aggagttaag gctggatttc a 221

<210> 391

<211> 325

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 391
 tggagcaggt cccgaggcct ccctagagcc tggggccgac tctgtgncga tgcangcttt 60
 ctctcgcgcc cagcctggag ctgctcctgg catctaccaa caatcagncg aggcgagcag 120
 tagccagggc actgctgcc aacagccagtc cnnataccat catgtnaccc ggtgngctct 180
 naanttngat ntccanagcc ctacccatcn tagttctgct ctcccaccgg ntaccagccc 240
 cactgcccag gaatcctaca gccagtaccc tgtcccagcg tctctaccta ccagtacgat 300
 gagacctccg gctactacta tgacc 325

<210> 392
 <211> 277
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(277)
 <223> n = A,T,C or G

<400> 392
 atattgttta actccttcct ttatatcttt taacattttc atggngaaa gttcacatct 60
 agtctcactt nggcnagn gnctcacttg agtctcttcc ccggcctgnn ccagtngnaa 120
 antaccanga accgncatgn cttaanaach ncctgggttn tgggttnntc aatgactgca 180
 tgcagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtgggcgg 240
 ctgaggatac agcgccgcgt cctgtgttgc tggggaa 277

<210> 393
 <211> 566
 <212> DNA
 <213> Homo sapiens

<400> 393
 actagtccag tgtggtggaa ttccgcgccg cgtcgacgga caggtcagct gtctggctca 60
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga ttaaattcag cctaaacgtt 120
 ttgccgggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcgggca 180
 gagaaggtct agtttgtcca tcagcattat catgatatca ggactgggta cttgggttaag 240
 gaggggtcta ggagatctgt cccttttaga gacaccttac ttataatgaa gtatttggga 300
 ggggtggttt caaaagtaga aatgtcctgt attccgatga tcatcctgta aacattttat 360
 catttattaa tcatccctgc ctgtgtctat tattatatc atatctctac gctggaaact 420
 ttctgcctca atgtttactg tgcctttgtt tttgctagtt tgtgttgttg aaaaaaaaaa 480
 cattctctgc ctgagtttta atttttgtcc aaagttattt taatctatac aattaaaagc 540
 ttttgcctat caaaaaaaaa aaaaaa 566

<210> 394
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(384)
 <223> n = A,T,C or G

<400> 394
 gaacatacat gtcccggcac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
 tgcaaattng gaccgggcca aggctggact gctggagcgt gtgaaggagc tacaggccna 120
 gcaggaggac cgggctttta ggagttttta gctgagtgct actgtagacc ccaaatacca 180
 tcccaagatt atcgggagaa agggggcagc aattacccaa atccggttg agcatgacgt 240

128

```

gaacatccag tttcctgata aggacgatgg gaaccagccc caggaccaaa ttaccatcac 300
agggtacgaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
tgagcagatg gtttctgagg acgt                                     384

```

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

```

ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtgaac 60
tctgaccttg gactccaaga cctacatcaa cagcctgggt atattagatg atgagccagt 120
tatcagaggt ttcattcattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
attcacgtct ttccagtacc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgacgt 300
caagttctct ttggaaagcc tgggcatctc ctactacag acctctgacc atgggacggt 360
gcagcctggt gagaccatcc aatcccaaat aaaatgcac                                     399

```

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

```

tggagttntc agtgcaaaca agccataaag cttcagtagc aaattactgt ctcacagaaa 60
gacattttca acttctgctc cagctgctga taaaacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcataactc tctagagaaa aaaaggagtt gttagtagat 180
actaaaaaaaa gtggatgaat aatctggata tttttcctaa aaagattcct tgaaacacat 240
taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gtttaggggg gggagtggag gataaaaagaa ggaaaaaaag aagagtgaga aaacctattt 360
atcaaagcag gtgctatcac tcaatgtagt gccctgctct ttt                                     403

```

<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(100)

<223> n = A,T,C or G

<400> 397

```

actagtnacg tgtggtggaa ttgcgggccc cgctgacctt naanccatct ctatagcaaa 60
tccatccccg ctcttggttg gtnacagaat gactgacaaa                                     100

```

<210> 398

<211> 278

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 398

129

```

gcggccgcgt cgacagcagt tccgccagcg ctgcgccctg ggtgggggatg tgctgcacgc 60
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120
tcaactactgt gcctcgacca gtgaggagag ctggaccgac agcgaggtgg actcatcatg 180
ctccgggcag cccatccacc tgtggcagtt cctcaaggag ttgctactca agccccacag 240
ctatggccgc ttcattangt ggctcaacaa ggagaagg 278

```

```

<210> 399
<211> 298
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(298)
<223> n = A,T,C or G

```

```

<400> 399
acggaggtgg aggaagcgnc cctgggatcg anaggatggg tcctgncatt gaccncctcn 60
ggggtgccng catggagcgc atgggcgcgg gcctggggcca cggcatggat cgcgtgggct 120
cggagatcga gcgcattggc ctggtcatgg accgcatggg ctccgtggag cgcattgggt 180
ccggcattga gcgcattggc ccgctggggc tcgaccacat ggctccanc attgancgca 240
tgggccagac catggagcgc attggctctg gcgtggagcn catgggtgcc ggcattggg 298

```

```

<210> 400
<211> 548
<212> DNA
<213> Homo sapiens

```

```

<400> 400
acatcaacta ctctctcatt ttaaggatg gcagttccct tcctcccctt ttcctgcctt 60
gtacatgtac atgtatgaaa ttcccttctc ttaccgaact ctctccacac atcacaagg 120
caaagaacca cagccttaga agggtaagag ggcaccctat gaaatgaaat ggtgatttct 180
tgagtctctt tttccacagt ttaagggggc atggcaggac ttagagttgc gagttaagac 240
tgcagagggc tagagaatta ttcatatag gctttgaggc caccatgtc acttatccc 300
tatacctctc caccatcccc ttgtctactc tgatgccccc aagatgcaac tgggcagcta 360
gttggcccca taattctggg cctttgttgt ttgttttaat tacttgggca tcccaggaag 420
ctttccagtg atctctacc atgggccccc ctctggtgat caagcccctc ccaggccctg 480
tccccagccc ctctgcccc agcccacccg ctgctcttgg tgctcagccc tccattggg 540
agcaggtt 548

```

```

<210> 401
<211> 355
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(355)
<223> n = A,T,C or G

```

```

<400> 401
actgtttcca tgttatgttt ctacacattg ctacctcagt gctcctggaa acttagcttt 60
tgatgtctcc aagtagtcca ccttcattta actctttgaa actgtatcat ctttgccaag 120
taagagtggg ggcctatttc agctgctttg acaaaatgac tggctcctga cttaacgttc 180
tataaatgaa tgtgctgaag caaagtgcc atggtggcgg cgaagaagan aaagatgtgt 240
tttgttttgg actctctgtg gtcccttcca atgctgnggg tttccaacca ggggaagggt 300
cccttttgca ttgccaagtg ccataacat gagcactact ctaccatggn tctgc 355

```

```

<210> 402
<211> 407
<212> DNA
<213> Homo sapiens

```

<220>
 <221> misc_feature
 <222> (1)...(407)
 <223> n = A,T,C or G

<400> 402

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atggggcaag ctggataaag aaccaagacc cactggagta tgctgtcttc aagaaaccca 60
tctcacatgc ggtggcatac ataggctcaa aataaaggaa tggagaaaaa tatttcaagc 120
aaatggaaaa cagaaaaaag cagggtgttc actcctactt tctgacaaaa cagactatgc 180
gaataaagat aaaaaagaga aggacattac aaagggtggtc ctgacctttg ataaatctca 240
ttgcttgata ccaacctggg ctgttttaat tgcccaaacc aaaaggataa tttgctgagg 300
ttgtggagct tctcccctgc agagagtccc tgatctcca aaatttggtt gagatgtaag 360
gntgattttg ctgacaactc cttttctgaa gttttactca tttccaa 407
```

<210> 403
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(303)
 <223> n = A,T,C or G

<400> 403

```
cagtatttat agccnaactg aaaagctagt agcaggcaag tctcaaatcc aggcacccaaa 60
tcctaagcaa gagccatggc atggtgaaaa tgcaaaaggga gagtctggcc aatctacaaa 120
tagagaacaa gacctactca gtcatagaaca aaaaggcaga caccaacatg gatctcatgg 180
gggattggat attgtaatta tagagcagga agatgacagt gatcgtcatt tggcacaaca 240
tcttaacaac gaccgaaacc cattattttac ataaacctcc attcggtaac catgttgaaa 300
gga 303
```

<210> 404
 <211> 225
 <212> DNA
 <213> Homo sapiens

<400> 404

```
aagtgttaact tttaaaaatt tagtggattt tgaaaattct tagaggaaag taaaggaaaa 60
attgttaaatg cactcattta cctttacatg gtgaaagttc tctcttgatc ctacaaacag 120
acattttcca ctcgtgtttc catagtgtgtt aagtgtatca gatgtgttgg gcatgtgaat 180
ctccaagtgc ctgtgtaata aataaagtat ctttatttca ttcatt 225
```

<210> 405
 <211> 334
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(334)
 <223> n = A,T,C or G

<400> 405

```
gagctgttat actgtgagtt ctactaggaa atcatcaaatt ctgagggttg tctggaggac 60
ttcaatacac ctccccccat agtgaatcag cttccagggg gtccagtccc tctccttact 120
tcatccccat cccatgccaa aggaagaccc tccctccttg gctcacagcc ttctctaggc 180
ttcccagtgc ctccaggaca gagtgggtta tgttttcagc tccatccttg ctgtgagtg 240
ctggtgcggg tgtgcctcca gcttctgtc agtgcttcat ggacagtgtc cagccccatgt 300
cactctccac tctctcannng tggatcccac ccct 334
```

<210> 406
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 406
 tttcatacct aatgagggag ttganatnac atnnaaccag gaaatgcatg gatctcaang 60
 gaaacaaaca cccaataaac tcggagtggc agactgacaa ctgtgagaca tgcacttgct 120
 acnaaacaca aattttnatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180
 actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 407
 gctgacttgc tagtâtcatc tgcattcatt gaagcacaag aacttcatgc cttgactcat 60
 gttaatgcaa taggattaaa aaataaattt gatatcacat ggaaacagac aaaaaatatt 120
 gtacaacatt gcacccagtg tcagattcta cacctggcca ctgaggaagc aagagttaat 180
 cccagaggtc tatgtcctaa tgtgttatgg caaatggatg tcatgcacgt accttcattt 240
 ggaaaattgt catttgtcca tgtgacagtt gatacttatt cacatttcat atgggcaacc 300
 tgccagacag gagaaaagtct tcccatgtta aaagacattt attatcttgt tttcctgtca 360
 tgggagttcc agaaaaagtt aaaacagaca atgggccagg ttctgtagta aag 413

<210> 408
 <211> 183
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 408
 ggagctngcc ctcaattcct ccatntctat gttancatat ttaatgtctt ttgnnattaa 60
 tncttaacta gtaatcctt aaagggctan ntaatcctta actagtcctt ccattgtgag 120
 cattatcctt ccagtattcn ccttctnttt tatttactcc ttcctggcta cccatgtact 180
 ntt 183

<210> 409
 <211> 250
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 409
 cccacgcatg ataagctctt tatttctgta agtcttgcta ggaaatcatc aaatctgacg 60
 gtggtttggg ggacctgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120
 gtccctcctt caacaacata ggaggatcct ccccttcttt ctgctcacgg ccttatctag 180
 gcttcccagt gccccagga cagcgtgggc tatgtttaca gcgcntcctt gctggggggg 240
 ggcntatgc 250

<210> 410
 <211> 306
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(306)
 <223> n = A,T,C or G

<400> 410
 ggctggtttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60
 agtcttgcaa tcccatgtgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120
 cccagggacc ttggaaacag ttggcactgt aaggtgcttg ctccccaaga cacatcctaa 180
 aaggtggttg aatgggtgaaa accgcttcct tctttattgc cccttcttat ttatgtgaac 240
 nactgggttg ctttttttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
 tcntgc 306

<210> 411
 <211> 261
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 411
 agagatattn cttaggtnaa agttcataga gttcccatga actatatgac tggccacaca 60
 ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
 tttaaagtgc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
 aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
 cttctctcaa gngaggcaa a 261

<210> 412
 <211> 241
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(241)
 <223> n = A,T,C or G

<400> 412
 gttcaatggt acctgacatt tctacaacac ccactcacc gatgtattcg ttgccagtg 60
 ggaacatacc agcctgaatt tggaaaaaat aattgtgttt cttgcccagg aaatactacg 120
 actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180
 ctgggagatt tcaactgggta cattgaattc ccaaactacc cangcaatta ccagccaac 240
 a 241

<210> 413
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

133

<400> 413
aactcttaca atccaagtga ctcatctgtg tgcttgaatc ctttccactg tctcatctcc 60
ctcatccaag tttctagtag cttctctttg ttgtgaagga taatcaaact gaacaacaaa 120
aagtttactc tcttcatttg gaacctaaaa actctcttct tcttggtct gagggctcca 180
agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t 231

<210> 414
<211> 234
<212> DNA
<213> Homo sapiens

<400> 414
actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60
gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaag gaggagggt cttccttttg catgggatgg ggatgaagta aggagaggga 180
ctggaccccc tggaagctga ttcactatgg ggggaggtgt attgaagtcc tcca 234

<210> 415
<211> 217
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(217)
<223> n = A,T,C or G

<400> 415
gcataggatt aagactgagt atcttttcta cattctttta acttttctaag gggcacttct 60
caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cactttctca 120
cacctagcaa tagtagaatt cagtcctact tctgaggcca gaagaatggt tcagaaaaat 180
antggattat aaaaaataac aattaagaaa aataatc 217

<210> 416
<211> 213
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(213)
<223> n = A,T,C or G

<400> 416
atgcataatnt aaagganact gcctcgcttt tagaagacat ctggngctgct ctctgcatga 60
ggcacagcag taaagctctt tgattcccag aatcaagaac tctccccttc agactattac 120
cgaatgcaag gtgggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180
atattggaac agatggagtc tctactacaa aag 213

<210> 417
<211> 303
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(303)
<223> n = A,T,C or G

<400> 417
nagtcttcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60

134

```

gtgggaaagg ctttactctg agttcaaadc ttcaagccca tcagagagtc cacactggag 120
agaagccata caaatgcaat gagtgtggga agagcttcag gagggattcc cattatcaag 180
ttcatctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaagggtc 240
tcantcaaag ttcgtatctt caaatccatc ngaaggncca cagtatanan aaacctttta 300
agt 303

```

```

<210> 418
<211> 328
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(328)
<223> n = A,T,C or G

```

```

<400> 418
tttttggcgg tgggtggggca gggacgggac angagtctca ctctgttgcc caggctggag 60
tgcacaggca tgatctcggc tcactacaac ccctgcctcc catgtccaag cgattcttgt 120
gcctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180
gtatttttag tagagacagg gtttcacat gttggccagg ctggtctcaa actcctnacc 240
tcagnggtca ggctggtctc aaactcctga cctcaagtga tctgccacc tcagcctccc 300
aaagtgctan gattacaggc cgtgagcc 328

```

```

<210> 419
<211> 389
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(389)
<223> n = A,T,C or G

```

```

<400> 419
cctcctcaag acggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatatg 60
acccctgagc catggactgg agcctgaaag gcagcgtaca ccctgctcct gatcttgctg 120
cttgtttccct ctctgtggct ccattcatag cacagttgtt gcaactgaggc ttgtgcaggc 180
cgagcaaggc caagctggct caaagagcaa ccagtcaact ctgccacggg gtgccaggca 240
ccggttctcc agccaccaac ctcaactcgt cccgcaaatg gcacatcagt tcttctaccc 300
taaaggtagg accaaagggc atctgctttt ctgaagtcct ctgctctatc agccatcacg 360
tggcagccac tcnggctgtg tcgacgcgg 389

```

```

<210> 420
<211> 408
<212> DNA
<213> Homo sapiens

```

```

<400> 420
gttcctccta actcctgcc aagacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggg gtttcggcat ggagaccgaa 180
gtccattga cacttttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatataaaaa attcttgaat gagtccata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg aagtgtctatg acaaacctgg caagcccg 408

```

```

<210> 421
<211> 352
<212> DNA
<213> Homo sapiens

```


<220>
 <221> misc_feature
 <222> (1)...(352)
 <223> n = A,T,C or G

<400> 421
 gctcaaaaat ctttttactg atnggcatgg ctacacaatc attgactatt acggaggcca 60
 gaggagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
 ttcactgaca gaacaggtct tttttgggtc cttcttctcc accacnata acttgagtc 180
 ctcccttcttg aagattcttt ggcatgtgtc tttgtcataa cccacaggtg tagaaacaag 240
 ggtgcaacat gaaatttctg tttcgtagca agtgcattgc tcacaagttg gcangtctgc 300
 cactccgagt ttattgggtg tttgtttcct ttgagatcca tgcatttctt gg 352

<210> 422
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 422
 atgccaccat gctggcaatg cagcggggcgg tcgaaggcct gcatatccag cccaagctgg 60
 cgatgatcga cggcaaccgt tgcccgaagt tgccgatgcc agccgaagcg gtgggtcaagg 120
 gcgatagcaa ggtgccggcg atcgcgggcg cgtcaatcct ggccaaggtc agccgtgatc 180
 gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcgggcgg cataagggtc 240
 atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgacgccg attcaccgac 300
 gcttcttccg ccggtacggc tggcctatga aaattat 337

<210> 423
 <211> 310
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(310)
 <223> n = A,T,C or G

<400> 423
 gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
 aggagaatga ggcctggcct gggagccctg tgcctactan aagcncatta gattatccat 120
 ttcactgacag aacaggtctt ttttgggtcc ttcttctcca ccacgatata cttgcagtc 180
 tccttcttga agattctttg gcagttgtct ttgtcataac ccacaggtgt anaaacaagg 240
 gtgcaacatg aaatttctgt ttcgtagcaa gtgcatgtct cacagttgtc aagtctgccc 300
 tccgagttaa 310

<210> 424
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(370)
 <223> n = A,T,C or G

<400> 424
 gctcaaaaat ctttttactg ataggcatgg ctacacaatc attgactatt agaggccaga 60
 ggagaatgag gcctggcctg ggagccctgt gcctactaga agcacattag attatccatt 120
 cactgacaga acaggtcttt tttgggtcct tcttctccac cacgatatac ttgcagtcct 180
 ccttcttgaa gattcttttg cagttgtctt tgtcataacc cacaggtgta gaaacatcct 240
 ggttgaatct cctggaactc cctcattagg tatgaaatag catgatgcat tgcataaagt 300
 cacgaagggt gcaaagatca caacgctgcc cagganaaca ttcattgtga taagcaggac 360
 tccgtcgcag 370

<210> 425
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 425
 aattgctatn ntttattttg ccactcaaaa taattaccaa aaaaaaaaaa tnttaaataga 60
 taacaacnca acatcaaggn aaananaaca ggaatggntg actntgcata aatnggccga 120
 anattatcca ttatnttaag gggtgacttc aggntacagc acacagacaa acatgcccag 180
 gaggnntntca ggaccgctcg atgtnttntg aggagg 216

<210> 426
 <211> 596
 <212> DNA
 <213> Homo sapiens

<400> 426
 cttccagtga ggataaccct gttgccccgg gccgagggttc tccattaggc tctgattgat 60
 tggcagtcag tgatggaagg gtgttctgat cattccgact gcccgaagg tcgctggcca 120
 gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatgggta 180
 gctgtccttg tattttgatt aacctaattg ccttcccagc acgactcgga ttcagctgga 240
 gacatcacgg caacttttaa tgaaatgatt tgaagggcca ttaagaggca cttcccgtta 300
 ttaggcagtt catctgcact gataacttct tggcagctga gctggtcgga gctgtggccc 360
 aaacgcacac ttggcttttg gttttgagat acaactotta atcttttagt catgcttgag 420
 ggtggatggc cttttcagct ttaacccaat ttgcaactgc ttggaagtgt agccaggaga 480
 atacactcat atactcgtgg gcttagaggc cacagcagat gtcattggtc tactgcctga 540
 gtcccgtctg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgtgct 596

<210> 427
 <211> 107
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(107)
 <223> n = A,T,C or G

<400> 427
 gaagaattca agtttaggttt attcaaaggc cttacngaga atcctanacc caggncccag 60
 cccgggagca gccttanaga gtcctgttt gactgcccg ctcagng 107

<210> 428
 <211> 38
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(38)
 <223> n = A,T,C or G

<400> 428
 gaacttcna anaangactt tattcactat ttacatt

38

<210> 429

<211> 544
<212> DNA
<213> Homo sapiens

<400> 429
ctttgctgga cggaataaaa gtggacgcaa gcatgacctc ctgatgaggg cgctgcattt 60
attgaagagc ggctgcagcc ctgcggttca gattaaaatc cgagaattgt atagacgccg 120
atatccacga actcttgaag gactttctga tttatccaca atcaaatcat cggttttcag 180
tttgatggtt ggctcatcac ctgtagaacc tgacttggcc gtggctggaa tccactcgtt 240
gccttccact tcagttacac ctcactcacc atcctctcct gttgggttctg tgctgcttca 300
agatactaag cccacatttg agatgcagca gccatctccc ccaattcctc ctgtccatcc 360
tgatgtgcag ttaaaaaatc tgccctttta tgatgtcctt gatgttctca tcaagcccac 420
gagtttagtt caaagcagta ttcagcgatt tcaagagaag ttttttattt ttgctttgac 480
acctcaacaa gttagagaga tatgcatatc cagggatttt ttgccagggtg gtaggagaga 540
ttat 544

<210> 430
<211> 507
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(507)
<223> n = A,T,C or G

<400> 430
cttatcncaa tgggggtccc aaacttggct gtgcagtgga aactccgggg gaattttgaa 60
gaacactgac acccatcttc caccocgaca ctctgattta attgggctgc agtgagaaca 120
gagcatcaat ttaaaaaagct gcccgagaatg ttntcctggg cagcgttggt atctttgccn 180
ccttcgtgac tttatgcaat gcatcatgct atttcatacc taatgagggg gttccaggag 240
attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaagaatntt 300
caagaaggag gactgcaagt atatcgtggt ggagaagaag gacccaaaaa agacctgttc 360
tgtcagtga tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
cattctctc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaagat 480
ttttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431
<211> 392
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

<400> 431
gaaaattcag aatggataaa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60
aaacaagaaa gcacttatca ggaggactta caaatggaag tacactctan aaccatcatc 120
tatcatggct aaatgtgaga ttagcacagc tgtattattt gtacattgca aacacctaga 180
aagagatggg aaacaaaatc ccaggagttt tgtgtgtgga gtcctgggtt ttccaacaga 240
catcattcca gcattctgag attagggnga ttggggatca ttctggagtt ggaatgttca 300
acaaaagtga tgttgtagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
gcaatgagtc tggctttttac tctgctgttt ct 392

<210> 432
<211> 387
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature
<222> (1)...(387)
<223> n = A,T,C or G

<400> 432

```
ggtatccnta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60
aaatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120
ngtagtccaa gctctcggn a gtccagccac tngaaacat gctcccttta gattaacctc 180
gtggacnctn ttgttgnatt gtctgaactg tagngccctg tattttgctt ctgtctgnga 240
attctgttgc ttctggggca tttccttgng atgcagagga ccaccacaca gatgacagca 300
atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtac aggaccggga 360
acaacgtata gaacactgga gtcctttt                                     387
```

<210> 433
<211> 281
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(281)
<223> n = A,T,C or G

<400> 433

```
ttcaactagc anagaanact gcttcagggg gtgtaaaatg aaaggcttcc acgcagttat 60
ctgattaaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120
caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180
atcgccgtgg ctattcctcn ttgntattac accagnagg ntctctgtnt gccactggg 240
tnnaaaaccg ntatacaata atgatagaat aggacacaca t                                     281
```

<210> 434
<211> 484
<212> DNA
<213> Homo sapiens

<400> 434

```
ttttaaaata agcatttagt gctcagtcct tactgagtac tctttctctc ccctcctctg 60
aatttaattc tttaacttg caatttgcaa ggattacaca ttctactgtg atgtatattg 120
tggtgcaaaa aaaaaaaagt gtctttgttt aaaattactt gggttgtaga tccatcttgc 180
tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tggatggttc tcagaaccat ttcaccaga 300
cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaaccc 360
tgctccaate tgctacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaacc 420
tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taccatgtc 480
ttta                                     484
```

<210> 435
<211> 424
<212> DNA
<213> Homo sapiens

<400> 435

```
gcgccgctca gagcaggtea ctttctgcct tccacgtcct ccttcaagga agcccatgt 60
gggtagcttt caatatcgca ggttcttact cctctgcctc tataagctca aaccaccaa 120
cgatcgggca agtaaacccc ctccctcgcc gacttcggaa ctggcgagag ttcagcgag 180
atgggcctgt ggggaggggg caagatagat gagggggagc ggcatgggtc ggggtgacct 240
cttgagaga ggaaaaaggc cacaagaggg gctgccaccg ccactaacgg agatggccct 300
ggtagagacc tttgggggtc tggaaacctc ggactcccca tgctctaact cccacactct 360
gctatcagaa acttaaacct gaggattttc tctgtttttc actcgcaata aattcagagc 420
aac                                     424
```

<210> 436

<211> 667
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(667)
<223> n = A,T,C or G

<400> 436
accttgggaa nactctcaca atataaaggg tcgtagactt tactccaaat tccaaaaagg 60
tcctggccat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataagggtgc 120
agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaacgaggg 180
cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
atgggctgcc agagtaggat aggattccag atgctgacac cttctggggg aaacaggggt 300
gccaggtttg tcatagcact catcaaagtc cggtaacgt ctgtgcttcg aatataaacc 360
tgttcatgtt tataggactc attcaagaat tttctatata tctttcttat atactctcca 420
agttcataat gctgctccat gccagctgg gtgagttggc caaatccttg tggccatgag 480
gattccttta tggggctcagt gggaaagggt tcaatgggac ttcggtctcc atgccgaaac 540
accaaagtca caaacttcaa ctcttggct agtacacttc ggtctagcca gaaaaaaggc 600
agaaacaaga agccaaggct aaggcttgct gccctgccag gaggaggggt gcagctctca 660
tgttgag 667

<210> 437
<211> 693
<212> DNA
<213> Homo sapiens

<400> 437
ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaaagatat taagtgactc 60
acacagccag gtaaggaaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taaagctcag gtaggaggc tgataagctt ggaagggaact tcagacagct ttttcagatc 180
ataaaagata attcttagcc catgttcttc tccagagcag acctgaaatg acagcacagc 240
aggtaactcct ctattttcac cctcttggct tctactctct ggcagtcaga cctgtgggag 300
gccatgggag aaagcagctc tctggatgtt tgtacagatc atggactatt ctctgtggag 360
catttctcca ggttacccta ggtgtcacta ttggggggac agccagcatc tttagctttc 420
atttgagttt ctgtctgtct tcagtagagg aaacttttgc tcttcacact tcacatctga 480
acacctaaact gctgttgctc ctgaggtggg gaaagacaga tatagagctt acagtattta 540
tcctatttct aggcactgag ggctgtgggg taccttgtgg tgccaaaaca gatcctgttt 600
taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctctttacc 660
ctgcatcatg tgctctcttg gctgaaaatg acc 693

<210> 438
<211> 360
<212> DNA
<213> Homo sapiens

<400> 438
ctgcttatca caatgaatgt tctcctgggc agcgttggtga tctttgccac cttcgtgact 60
ttatgcaatg catcatgcta tttcatacct aatgagggag ttccaggaga ttcaaccagg 120
atgtttctac acctgtgggt tatgacaaaag acaactgcc aagaatcttc aagaaggagg 180
actgcaagta tatctggtgg agaagaagga cccaaaaaag acctgttctg tcagtgaatg 240
gataatctaa tgtgcttcta gtaggcacag ggctcccagg ccaggcctca ttctcctctg 300
gcctctaata gtcaataatt gtgtagccat gcctatcagt aaaaagattt ttgagcaaac 360

<210> 439
<211> 431
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

140

<222> (1)...(431)

<223> n = A,T,C or G

<400> 439

```

gttcctnnta actcctgcc a gaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcgccgcgc 420
aatttagtag t

```

431

<210> 440

<211> 523

<212> DNA

<213> Homo sapiens

<400> 440

```

agagataaag cttagggtcaa agttcataga gttcccatga actatatgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaattgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
cttctctcaa ggagaggcaa agaaaggaga tacagtggag acatctggaa agttttctcc 300
actggaaaac tgctactatc tgtttttata tttctgttaa aatatatgag gctacagaac 360
taaaaattaa aacctctttg tgtcccttgg tcctggaaca tttatgttcc ttttaaagaa 420
acaaaaatca aactttacag aaagatttga tgtatgtaac acatatagca gctcttgaag 480
tatatatatc atagcaaata agtcatctga tgagaacaag cta

```

523

<210> 441

<211> 430

<212> DNA

<213> Homo sapiens

<400> 441

```

gttcctccta actcctgcc a gaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtcccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcgccgcgc 420
aatttagtag

```

430

<210> 442

<211> 362

<212> DNA

<213> Homo sapiens

<400> 442

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ctaaggaatt agtagtggtc ccatcacttg tttggagtgt gctattctaa aagattttga 60
tttcttgtaa tgacaattat attttaactt tgggtgggga aagagttata ggaccacagt 120
cttcacttct gatacttgta aattaatctt ttattgcact tgttttgacc attaagctat 180
atgttttagaa atggtcattt tacggaaaaa ttagaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttactt aatttatatt gaactgtcaa tgacaaataa aaattctttt 300
tgattatttt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
tc

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362

<210> 443

<211> 624

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 443
 tttttttttt gcaacacaaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60
 ttgaaagaat taaattcaga ggaggggaga gaaagagtag tcagtaggga ctgagcacta 120
 aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
 tgctggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
 cccaaaccac agaaaatggg gtgaaattgg ccaactttct attaaacttg cttcctgttt 300
 tataaaatat tgtgaataat atcacctact tcaaagggca gttatgaggc ttaaataaac 360
 taacgcctac aaaacactta aacatagata acataggtgc aagtactatg tatctggtac 420
 atggtaaaca tccttattat taaagtcaac gctaaaatga atgtgtgtgc atatgctaata 480
 agtacagaga gagggcactt aaaccaacta agggcctgga gggaagggtt cctggaaaaga 540
 ngatgcttgt gctgggtcca aatcttggtc tactatgacc ttggccaat tatttaaact 600
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<210> 444
 <211> 425
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(425)
 <223> n = A,T,C or G

<400> 444
 gcacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
 gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaaatag aacaagtaag 120
 ttcatgtcta tagcataaca caaaatttgc ataagtgggtg gtcagcaaat ccttgaatgc 180
 tgcttaattg gagaggttgg taaaatcctt tgtgcaacac tctaactccc tgaatgttt 240
 gctgtgctgg gacctgtgca tgccagacaa ggccaagctg gctgaaagag caaccagcca 300
 cctctgcaat ctgccacctc ctgctggcag gatttgtttt tgcactctgt gaagagccaa 360
 ggaggcacca gggcataagt gagtagactt atggctcgacg cggccgcgaa tttagtagta 420
 gtaga 425

<210> 445
 <211> 414
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(414)
 <223> n = A,T,C or G

<400> 445
 catgtttatg nttttggatt actttgggca cctagtgttt ctaaatcgtc tatcattctt 60
 ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
 tgaaattctt tgcattgtggc agattatttg atgtagtttc ctttaactag catataaatc 180
 tgggtgtgtt cagataaatg aacagcaaaa tgtggtggaa ttaccatttg gaacattgtg 240
 aatgaaaaat tgtgtctcta gattatgtaa caaataacta tttcctaacc attgatcttt 300
 ggatttttat aatcctactc acaaatgact aggtctctcc tcttgtattt tgaagcagtg 360
 tgggtgctgg attgataaaa aaaaaaaaaa tgcacgcggc cgcaattta gtag 414

<210> 446
 <211> 631
 <212> DNA
 <213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(631)
<223> n = A,T,C or G

<400> 446
acaaattaga anaaagtgcc agagaacacc acataccttg tccggaacat tacaatggct 60
tctgcatgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcagggtgtg 120
atgctgggta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgtttgtc 180
ccggtcctgt acgatttcag tatgtcttaa tgcgagctgt gattggaaca attcagattg 240
ctgtcatctg tgtgggtggtc ctctgcatca caagggccaa actttaggta atagcattgg 300
actgagattt gtaaaactttc caaccttcca ggaaatgccc cagaagcaac agaattcaca 360
gacagaagca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacgagggt 420
taatctaaag ggagcatgtt tcacagtggc tggactaccg agagcttgga ctacacaata 480
cagtattata gacaaaagaa taagacaaga gatctacaca tgttgccttg catttgtggt 540
aatctacacc aatgaaaaca tgtactacag ctatatgtga ttatgtatgg atatatttga 600
aatagtatac attgtcttga tgttttttct g 631

<210> 447
<211> 585
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(585)
<223> n = A,T,C or G

<400> 447
ccttgggaaa antntcacaa tataaagggt cgtagacttt actccaaatt ccaaaaagggt 60
cctggccatg taatcctgaa agttttccca aggtagctat aaaatcctta taagggtgca 120
gcctcttctg gaattcctct gatttcaaag tctcactctc aagttcttga aaacgagggc 180
agttcctgaa aggcaggtat agcaactgat cttcagaaag aggaactgtg tgcaccggga 240
tgggctgcca gagtaggata ggattccaga tgcagacacc ttctggggga aacagggctg 300
ccagggttgt catagcactc atcaaagtcc ggtcaacgtc tgtgcttcga atataaacct 360
gttcagtgtt ataggactca ttcaagaatt ttctatatct ctttcttata tactctccaa 420
gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
attcctttat ggggtcagtg ggaaagggtg caatgggact tccgtctcca tgccgaaaca 540
ccaaagtcac aaacttcaac tccttggcta gtacacttcg gtcta 585

<210> 448
<211> 93
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(93)
<223> n = A,T,C or G

<400> 448
tgctcgtggg tcattctgan nnccgaactg accntgccag ccctgccgan ggcccnccat 60
ggctccctag tgccctggag agganngggc tag 93

<210> 449
<211> 706
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

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ccaagttcat gctntgtgct ggacgctgga caggggggcaa aagcnnttgc tcgtgggtca 60
ttctgancac cgaactgacc atgccagccc tgccgatggt cctccatggc tccctagtgc 120
cctggagagg aggtgtctag tcagagagta gtccctggaag gtggcctctg ngaggagcca 180
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gttggaagg gcgatcggtg cgggcctctt cgctattacg ccagctggcg aaagggggat 300
gtgctgcaag gcgattaagt tgggtaacgc caggggttttc ccagtcncga cgttgtaaaa 360
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cgtacgtaag cttggatcct ctagagcggc cgcctactac tactaaattc gcggccgcgt 480
cgacgtggga tccnactga gagagtggag agtgacatgt gctggacnct gtccatgaag 540
cactgagcag aagctggagg cacaacgcnc cagacactca cagctactca ggaggctgag 600
aacaggttga acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncccca 660
gcatggatga cagagtgaaa ctccatctta aaaaaaaaaa aaaaaa 706

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<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

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gagacggagt gtcactctgt tgcccaggct ggagtgcagc aagacactgt ctaagaaaaa 60
acagttttta aaggtaaaac aacataaaaa gaaatatcct atagtggaaa taagagagtc 120
aaatgaggct gagaacttta caaagggatc ttacagacat gtcgccaata tcaactgcatg 180
agcctaagta taagaacaac ctttggggag aaacctatcat ttgacagtga ggtacaattc 240
caagtcagggt agtgaaatgg gtggaattaa actcaaatta atcctgccag ctgaaacgca 300
agagacactg tcagagagtt aaaaagttag ttctatccat gaggtgattc cacagtcttc 360
tcaagtcaac acatctgtga actcacagac caagttctta aacctactgt caaactctgc 420
tacacatcag aatcacctgg agagctttac aaactcccat tgccgagggt cgacgcggcc 480
gcgaatttag tag 493

```

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 451

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ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct gcaagggcat taagttgggt 120
aacgccaggg ttttcccagt cncgacgttg taaaacgacg gccagtgaat tgaatttagg 180
tgacnctata gaagagctat gacgtcgcat gcacgcgtac gtaagcttgg atcctctaga 240
gcggccgcct actactacta aattcgcggc cgcgtcgacg tgggatccnc actgagagag 300
tggagagtga catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaggcaca 360
cgcnccagac actcacagct actcaggagg ctgagaacag gttgaacctg ggaggtggag 420
gttgcaatga gctgagatca ggcnctgcn ccccgacatg gatgacagag tgaaactcca 480
tcttaaaaaa aaaaaaaaaa a 501

```

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(51)

144

<223> n = A,T,C or G

<400> 452

agacggtttc accnttacaa cnccttttag gatgggnntt ggggagcaag c 51

<210> 453

<211> 317

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(317)

<223> n = A,T,C or G

<400> 453

tacatcttgc	tttttcccca	ttggaactag	tcattaaccc	atctctgaac	tggtagaaaa	60
acatctgaag	agctagtcta	tcagcatctg	gcaagtgaat	tgatgggttc	tcagaacccat	120
ttcacccana	cagcctgttt	ctatcctgtt	taataaatta	gtttgggttc	tctacatgca	180
taacaaaccc	tgctccaatc	tgtcacataa	aagtctgtga	cttgaagttt	antcagcacc	240
cccaccaaac	tttatttttc	tatgtgtttt	ttgcaacata	tgagtgtttt	gaaaataagg	300
tacctatgtc	tttatta					317

<210> 454

<211> 231

<212> DNA

<213> Homo sapiens

<400> 454

ttcgaggtac	aatcaactct	cagagtgtag	tttccttcta	tagatgagtc	agcattaata	60
taagccacgc	cacgctcttg	aaggagtctt	gaattctcct	ctgctcactc	agtagaacca	120
agaagaccaa	attcttctgc	atcccagctt	gcaaacaaaa	ttgttcttct	aggtctccac	180
ccttcctttt	tcagtgttcc	aaagctcctc	acaatttcat	gaacaacagc	t	231

<210> 455

<211> 231

<212> DNA

<213> Homo sapiens

<400> 455

taccaaagag	ggcataataa	tcagtctcac	agtaggggttc	accatcctcc	aagtgaaaaa	60
cattgttccg	aatgggcttt	ccacaggcta	cacacacaaa	acaggaaaca	tgccaagtgtt	120
gtttcaacgc	attgatgact	tctccaagga	tcttcctttg	gcatcgacca	cattcagggg	180
caaagaattt	ctcatagcac	agctcacaat	acagggtctc	tttctcctct	a	231

<210> 456

<211> 231

<212> DNA

<213> Homo sapiens

<400> 456

ttggcaggta	cccttacaaa	gaagacacca	taccttatgc	gttattaggt	ggaataatca	60
ttccattcag	tattatcggt	attattcttg	gagaaaccct	gtctgtttac	tgtaaccctt	120
tgcaactcaa	ttcctttatc	aggaataact	acatagccac	tatttacaaa	gccattggaa	180
cctttttatt	tggtgcagct	gctagtcagt	ccctgactga	cattgccaaag	t	231

<210> 457

<211> 231

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

<400> 457
 cgaggtaccc aggggtctga aaatctctnn tttantagtc gatagcaaaa ttgttcatca 60
 gcattcctta atatgatctt gctataatta gatttttctc cattagagtt catacagttt 120
 tatttgattt tattagcaat ctctttcaga agacccttga gatcattaag ctttgtatcc 180
 agttgtctaa atcgatgcct catttctctt gaggtgtcgc tggcttttgt g 231

<210> 458
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 458
 aggtctggtt ccccccaatt ccactcccct ctactctctc taggactggg ctgggccaaag 60
 agaagagggg tggtagggga agccgttgag acctgaagcc ccaccctcta ccttccttca 120
 acaccctaac cttgggtaac agcatttga attatcattt gggatgagta gaatttccaa 180
 ggtcctgggt taggcatttt ggggggccag accccaggag aagaagattc t 231

<210> 459
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 459
 ggtaccgagg ctcgctgaca cagagaaaacc ccaacgcgag gaaaggaatg gccagccaca 60
 ccttcgcgaa acctgtgggt gccaccagt cctaacggga caggacagag agacagagca 120
 gccctgcaat gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180
 actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac a 231

<210> 460
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 460
 gcaggtataa catgctgcaa caacagatgt gactaggaac ggccggtgac atggggaggg 60
 cctatcacc ctttcttggg ggctgcttct tcacagtgat catgaagcct agcagcaaat 120
 cccctccccc cacacgcaca cggccagcct ggagcccaca gaagggtcct cctgcagcca 180
 gtggagcttg gtccagcctc cagtccaccc ctaccaggct taaggataga a 231

<210> 461
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 461
 cgaggtttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggaggggtc 60
 gcgtgtgctc cagaagagtg tgtgcatgcc agaggggaaa caggcgcctg tgtgtcctgg 120
 gtggggttca gtgaggagtg ggaaattggg tcagcagaac caagccgttg ggtgaataag 180
 agggggattc catggcactg atagagccct atagtttcag agctgggaat t 231

<210> 462
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 462
 aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaattaaatg 60
 ggtcatgca agtataaaaa ttaaaaaaaa aagacttcat gcccaatctc atatgatgtg 120

146

gaagaactgt tagagagacc aacagggtag tgggtagag atttccagag tcttacattt 180
tctagaggag gtatttaatt tcttctcact catccagtgt tgtatttagg a 231

<210> 463
<211> 231
<212> DNA
<213> Homo sapiens

<400> 463
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actgagtaga cagggtgtcct ctggcatgg taagtcttaa gtcccctccc agatctgtga 120
catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtga gaaaaggcag 180
tggggagggtg gatcttccag tcgaagcggt atagaagccc gtgtgaaaag c 231

<210> 464
<211> 231
<212> DNA
<213> Homo sapiens

<400> 464
gtactctaag attttatcta agttgccttt tctgggtggg aaagttaac cttagtgtact 60
aaggacatca catatgaaga atgtttaagt tggagggtggc aacgtgaatt gcaaacaggg 120
cctgtctcag tgactgtgtg cctgtagtcc cagctactcg ggagtctgtg tgaggccagg 180
ggtgccagcg caccagctag atgctctgta acttctaggg cccattttcc c 231

<210> 465
<211> 231
<212> DNA
<213> Homo sapiens

<400> 465
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gtggcacaatt agcaacaaat tctgacatca tatttatggg ttctgtatct ttgttgatga 120
aggatggcac aatttttgct tgtgttcata atatactcag attagtccag ctccatcaga 180
taaactggag acatgcagga cattagggta gtgtttagtc tctggtaatg a 231

<210> 466
<211> 231
<212> DNA
<213> Homo sapiens

<400> 466
caggtagctc tttccattgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
ggccttcgaa cagaacttgc cacataccca ggtataatag tttctaacat ttgccaggga 120
cctgtgcaat caaatattgt ggagaattcc ctagtctggag aagtcacaaa gactataggc 180
aataatggag accagtccca caagatgaca accagtcggt gtgtgcggct g 231

<210> 467
<211> 311
<212> DNA
<213> Homo sapiens

<400> 467
gtacaccctg gcacagtcca atctgaactg gttcggcact catctttcat gagatggatg 60
tgggtggcttt tctccttttt catcaagact cctcagcagg gagcccagac cagcctgcac 120
tgtgccttaa cagaaggctt tgagattcta agtggaatc atttcagtga ctgtcatgtg 180
gcatgggtct ctgcccgaag tcgtaatgag actatagcaa ggcggctgtg ggacgtcagt 240
tgtgacctgc tgggcctccc aatagactaa caggcagtgc cagttggacc caagagaaga 300
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<210> 468
<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

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aagatctgca tgggtgggaag gacctgatga tacagagttt gataggagac aattaaaggc 120
tggaaggcac tggatgcctg atgatgaagt ggactttcaa actggggcac tactgaaacg 180
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aaatgggata cacagtatga tctataaagt gggatatagt atgatctact tcaactgggt 420
atttgaagga tgaattgaga taatttattt cagggtgccta gaacaatgcc cagattagta 480
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aaaacagatc ctgttgtgga tatttatttg aacgggatta cagatttgaa atgaagtcac 1680
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accacggggc agaggggtcag gattctggcc ctgctgccta aactgtgcgt tcataaccaa 1860
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gcaaaacta aaagtgtaat ttgattataa gagtttagat aaatatatga aatgcaagag 2760
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agctttttcac agaattcatg cagtgc aaat ccccaaagg t aacctttatc catttcatgg 2940
tgagtgcgct ttagaatttt ggcaaatcat actggtcact tatctcaact ttgagatgtg 3000
tttgtccttg tagttaattg aaagaaatag ggcactcttg tgagccactt taggggtcac 3060
tcctggcaat aaagaattta caaagagcaa aaaaaaaaaa aaaaaaaaaa aa 3112
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<210> 469

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 469

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agctctttgt aaattcttta ttgccaggag tgaaccctaa agtgggtcac aagagtgcc 60
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tgatttgcca aaattctaaa gcgcactcac catgaaatgg ataaagggtta cctttgggga 180
tttgactgc atgaattctg tgaaaagctt gttggatatt gtgatagaga tagagaaatg 240
aagtatatta tataagatac tatgaggttc cctgcctttg cttcacatcc caggcttaca 300
aacgtgcccc ataaacattc cctctgtggc tcttgcatth catatattta tctaaactct 360
tataatcaaa tacactttta gtatttgctg tctcatgtga tgatgaatct catatgtgtc 420
ccttctttgc atgaagtaag atagtcaact tattcaaaac tttacatcat tctagattta 480
agagacaagg aagagcttct caggcagaag gaataatgta tgcctgacat gttcaaggaa 540
ttacaagtta gattttgttt aggtgcatgg gaggggttga tggatgatgac agataaggct 600
ggagggatgg ggagaggctg tggctgtata cagcctcagt acaaggctaa gcattttaac 660
tttatactgg aaaaaaaatc aaacaaaggg gagggataaa ggacttagtc atctttgcac 720
tggaatacaa aatatgtaat taaattccca tagctgcatg taacattgaa ttcttcagg 780
ttaaaaaaaa agttaatcct gtgatattaa tggatgaca ttttgagggtc ttgagaatgg 840
gcacaaaagt ggggaatgaa tttcagtagt ggcaaagaca ctgaggatga tgttgattag 900
ataattcact ccgtaatgat catgctgtgt gctagtaagt ataaccctgg aaagatcttg 960
agatgcttcc cagcctgttc acagatcccc tgggcccagaa cactccttag gaaaaacagt 1020
cagctacata ttaggcagca acacgaaggg tctttgaaca aaatgagtaa tgttattcta 1080
cagtgtagaa aggtcacagt acagatctgg gaactaaata ttaaaaatga gtgtggctgg 1140
atatatggag aatgttgggc ccagaaggaa ccgtagagat cagatattac aacagctttg 1200
ttttgagggt tagaaatatg aaatgatttg gttatgaacg cacagtttag gcagcagggc 1260
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cacagtattc cattttgttt gttgcatgtc ttgtgaagcc atcaagattt tctcgtctgt 1380
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ggtcacctga ggtcaggagt tcaagaccag cctggccaat atggtgaaac cccatctcta 2160
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aatggaatt
2229

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<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

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gtaaattctt tattgccagg agtgaaccct aaagtggctc acaagagtgc cctatttctt 60
tcaattaact acaaggacaa acacatctca aagttagat aagtgaccag tatgatttgc 120
caaaattcta aagcgcactc accatgaaat ggataaagggt tacctttggg gatttgcact 180
gcatgaattc tgtgaaaagc ttgttgata ttgtgataga gatagagaaa tgaagtatat 240
tatataagat actatgaggt tccctgcctt tgcttcacat cccaggctta aacagtgcc 300
ccataaacat tccctctgtg gctcttgcac ttcatatatt tatctaaact cttataatca 360
aattacactt ttagtatttg ctgtctcatg tgatgatgaa tctcatatgt gtcccttctt 420
tgcatgaagt aagatagtc aacttattcaa aactttacat cattctagat ttaagagaca 480
aggaagagct tctcaggcag aaggaataat gtatgcctga catgttcaag gaattacaag 540
ttagattttg tttaggtgca tgggaggggg tgatggtgat gacagataag gctggaggga 600
tgaggagagg ctgtggctgt atacagcctc agtacaaggc taagcatttt aactttatca 660
tggaataaaa atcaaacaaa ggggagggat aaaggactta gtcattcttg cactggaaaa 720
caaaatatgt aattaaattc ccatagctgc atgtaacatt gaattcttcc aggttaaaaa 780
aaaaagttaa tctgtgtgata ttaatggaat gacattttga ggtcttgaga atgggcacaa 840
aagtgggaaa tgaatttcag tatgggcaaa gacactgagg atgatgttga ttagataatt 900
cactccgtaa tgatcatgct gtgtgctagt aagtataacc ctggaaagat cttgagatgc 960

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ttccagcct gttcacagat cccctgggccc agaactcc ttaggaaaaa cagtcagcta 1020
catattaggc agcaacacga aggggtctttg aacaaaatga gtaatgttat tctacagtgt 1080
agaaaggtca cagtacagat ctgggaacta aatattaaaa atgagtgtgg ctggatatat 1140
ggagaatgtt gggcccagaa ggaaccgtag agatcagata ttacaacagc tttgttttga 1200
gggttagaaa tatgaaatga tttggttatg aacgcacagt ttaggcagca gggccagaat 1260
cctgaccctc tgccccgtgg ttatctctctc cccagcttgg ctgcctcatg tcatcacagt 1320
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ctcattggta atgtctactt tgtgacttca tttcaaactc gtaatcccgt tcaaataaat 1440
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atgtccttcc ctcacaagcg ggaccaggca cagggcgagg ctcacgatg acccaagatg 1560
gcgccggggc atttctccca gggatctctg tgcttccctt tgtgcttcc 1620
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tgacacacac cattctcttg aggtccctc tagagatccc acaggtcata tgacttcttg 2040
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tgactcgaa cctgggcgac agagtggaa tctgtttcca aaaaacaaac aaacaaaaaa 2340
ggcatagtca gatacaacgt ggggtgggat tgtaaataga agcaggatat aaagggcatg 2400
gggtgacggt tttgcccac acaatg

```

<210> 471

<211> 812

<212> DNA

<213> Homo sapiens

<400> 471

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gaacaaaatg agtaatgtta ttctacagt tagaaagggtc acagtacaga tctgggaact 60
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gagatcagat attacaacag ctttgttttg agggttagaa atatgaaatg atttggttat 180
gaacgcacag tttaggcagc agggccagaa tcctgaccct ctgcccctg gttatctcct 240
ccccagcttg gctgcctcat gtcacacag tattccattt tgtttgttg atgtcttgtg 300
aagccatcaa gattttctcg tctgttttcc tctcattggt aatgctcact ttgtgacttc 360
atttcaaata tgtaatcccc ttcaaataaa tatccacaac aggatctgtt ttctgcccc 420
tcctttaagg aacacatcaa ttcattttct aatgtccttc cctcacaagc gggaccaggc 480
acagggcgag gctcatcgat gacccaagat ggcggccggg catttctccc agggatctct 540
gtgcttccct ttgtgcttcc tgtgtgtgtg gatatttaaa ggggctggaa atgtgcaaaa 600
acatgtcact acttagacat tatattgtca tcttgtgtgt tctagtgtg ttaattatct 660
ccatttcagc agatgtgtgg cctcagatgg taaagtcagc agcctttctt atttctcacc 720
tctgtatcat caggtccttc ccaccatgca gatcttctct gtctccctcg gctgcagcca 780
cacaaatctc ccctctgttt ttctgatgcc ag

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<210> 472

<211> 515

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(515)

<223> n = A,T,C or G

<400> 472

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cttatgactt tcctatcatg cttattaata aataatacag cccagagaag atgaaaatgg 120
gttccagaat tattggctct tgcagcccg tgaatctcag caagaggaac caccaactga 180
caatcaggat attgaacctg gacaagagag agaaggaaca cctccgatcg aagaacgtaa 240

```

150

```

agtagaaggt gattgccagg aaatggatct ggaaaagact cggagtgagc gtggagatgg 300
ctctgatgta aaagagaaga ctccacctaa tcctaagcat gctaagacta aagaagcagg 360
agatgggcag ccataagtta aaaagaagac aagctgaagc tacacacatg gctgatgtca 420
cattgaaaat gtgactgaaa atttgaaaat tctctcaata aagtttgagt tttctctgaa 480
gaaaaaaaaa naaaaaaaaa aaanaaaan aaaaa                    515

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<210> 473
 <211> 750
 <212> PRT
 <213> Homo sapiens

<400> 473

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Met Trp Asn Leu Leu His Glu Thr Asp Ser Ala Val Ala Thr Ala Arg
      5                                10                        15

Arg Pro Arg Trp Leu Cys Ala Gly Ala Leu Val Leu Ala Gly Gly Phe
      20                                25                        30

Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser Ser Asn Glu
      35                                40                        45

Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu
      50                                55                        60

Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu Tyr Asn Phe Thr Gln Ile
      65                                70                        75                        80

Pro His Leu Ala Gly Thr Glu Gln Asn Phe Gln Leu Ala Lys Gln Ile
      85                                90                        95

Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His
      100                               105                       110

Tyr Asp Val Leu Leu Ser Tyr Pro Asn Lys Thr His Pro Asn Tyr Ile
      115                               120                       125

Ser Ile Ile Asn Glu Asp Gly Asn Glu Ile Phe Asn Thr Ser Leu Phe
      130                               135                       140

Glu Pro Pro Pro Pro Gly Tyr Glu Asn Val Ser Asp Ile Val Pro Pro
      145                               150                       155                       160

Phe Ser Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr
      165                               170                       175

Val Asn Tyr Ala Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met
      180                               185                       190

Lys Ile Asn Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val
      195                               200                       205

Phe Arg Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly
      210                               215                       220

Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys
      225                               230                       235                       240

Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg Gly
      245                               250                       255

Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro Gly Tyr

```


260					265					270					
Pro	Ala	Asn	Glu	Tyr	Ala	Tyr	Arg	Arg	Gly	Ile	Ala	Glu	Ala	Val	Gly
		275					280					285			
Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr	Tyr	Asp	Ala	Gln	Lys
	290					295					300				
Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro	Asp	Ser	Ser	Trp	Arg
305					310					315					320
Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	Pro	Gly	Phe	Thr	Gly	Asn
				325					330					335	
Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	Ile	His	Ser	Thr	Asn	Glu	Val
			340					345					350		
Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	Thr	Leu	Arg	Gly	Ala	Val	Glu	Pro
		355					360					365			
Asp	Arg	Tyr	Val	Ile	Leu	Gly	Gly	His	Arg	Asp	Ser	Trp	Val	Phe	Gly
	370					375					380				
Gly	Ile	Asp	Pro	Gln	Ser	Gly	Ala	Ala	Val	Val	His	Glu	Ile	Val	Arg
385					390					395					400
Ser	Phe	Gly	Thr	Leu	Lys	Lys	Glu	Gly	Trp	Arg	Pro	Arg	Arg	Thr	Ile
				405					410					415	
Leu	Phe	Ala	Ser	Trp	Asp	Ala	Glu	Glu	Phe	Gly	Leu	Leu	Gly	Ser	Thr
			420					425					430		
Glu	Trp	Ala	Glu	Glu	Asn	Ser	Arg	Leu	Leu	Gln	Glu	Arg	Gly	Val	Ala
		435					440					445			
Tyr	Ile	Asn	Ala	Asp	Ser	Ser	Ile	Glu	Gly	Asn	Tyr	Thr	Leu	Arg	Val
	450					455					460				
Asp	Cys	Thr	Pro	Leu	Met	Tyr	Ser	Leu	Val	His	Asn	Leu	Thr	Lys	Glu
465					470					475					480
Leu	Lys	Ser	Pro	Asp	Glu	Gly	Phe	Glu	Gly	Lys	Ser	Leu	Tyr	Glu	Ser
				485					490					495	
Trp	Thr	Lys	Lys	Ser	Pro	Ser	Pro	Glu	Phe	Ser	Gly	Met	Pro	Arg	Ile
			500					505					510		
Ser	Lys	Leu	Gly	Ser	Gly	Asn	Asp	Phe	Glu	Val	Phe	Phe	Gln	Arg	Leu
		515					520					525			
Gly	Ile	Ala	Ser	Gly	Arg	Ala	Arg	Tyr	Thr	Lys	Asn	Trp	Glu	Thr	Asn
	530					535					540				
Lys	Phe	Ser	Gly	Tyr	Pro	Leu	Tyr	His	Ser	Val	Tyr	Glu	Thr	Tyr	Glu
545					550					555					560
Leu	Val	Glu	Lys	Phe	Tyr	Asp	Pro	Met	Phe	Lys	Tyr	His	Leu	Thr	Val
				565					570					575	
Ala	Gln	Val	Arg	Gly	Gly	Met	Val	Phe	Glu	Leu	Ala	Asn	Ser	Ile	Val
			580					585					590		

152

Leu Pro Phe Asp Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala
 595 600 605
 Asp Lys Ile Tyr Ser Ile Ser Met Lys His Pro Gln Glu Met Lys Thr
 610 615 620
 Tyr Ser Val Ser Phe Asp Ser Leu Phe Ser Ala Val Lys Asn Phe Thr
 625 630 635 640
 Glu Ile Ala Ser Lys Phe Ser Glu Arg Leu Gln Asp Phe Asp Lys Ser
 645 650 655
 Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu
 660 665 670
 Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg
 675 680 685
 His Val Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser
 690 695 700
 Phe Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp
 705 710 715 720
 Pro Ser Lys Ala Trp Gly Glu Val Lys Arg Gln Ile Tyr Val Ala Ala
 725 730 735
 Phe Thr Val Gln Ala Ala Ala Glu Thr Leu Ser Glu Val Ala
 740 745 750

<210> 474
 <211> 386
 <212> PRT
 <213> Homo sapiens

<400> 474
 Met Arg Ala Ala Pro Leu Leu Leu Ala Arg Ala Ala Ser Leu Ser Leu
 5 10 15
 Gly Phe Leu Phe Leu Leu Phe Phe Trp Leu Asp Arg Ser Val Leu Ala
 20 25 30
 Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
 35 40 45
 Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
 50 55 60
 Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
 65 70 75 80
 Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
 85 90 95
 Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
 100 105 110
 Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
 115 120 125
 Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His

130 135 140
 Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu Pro Phe Arg Asn
 145 150 155 160
 Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu
 165 170 175
 Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly
 180 185 190
 Lys Leu Ser Gly Leu His Gly Gln Asp Leu Phe Gly Ile Trp Ser Lys
 195 200 205
 Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro
 210 215 220
 Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu
 225 230 235 240
 Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser
 245 250 255
 Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys
 260 265 270
 Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala
 275 280 285
 His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn
 290 295 300
 Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe
 305 310 315 320
 Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln
 325 330 335
 His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro
 340 345 350
 Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp
 355 360 365
 Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser
 370 375 380
 Thr Asp
 385

 <210> 475
 <211> 261
 <212> PRT
 <213> Homo sapiens

 <400> 475
 Met Trp Val Pro Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly
 5 10 15
 Ala Ala Pro Leu Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu
 20 25 30

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<210> 476
<211> 1079
<212> PRT
<213> Homo sapiens
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<400> 476
Met His His His His His His Met Trp Val Pro Val Val Phe Leu Thr
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Leu Ser Val Thr Trp Ile Gly Ala Ala Pro Leu Ile Leu Ser Arg Ile
                20                      25                      30

Val Gly Gly Trp Glu Cys Glu Lys His Ser Gln Pro Trp Gln Val Leu
        35                      40                      45

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Val Ala Ser Arg Gly Arg Ala Val Cys Gly Gly Val Leu Val His Pro
 50 55 60
 Gln Trp Val Leu Thr Ala Ala His Cys Ile Arg Asn Lys Ser Val Ile
 65 70 75 80
 Leu Leu Gly Arg His Ser Leu Phe His Pro Glu Asp Thr Gly Gln Val
 85 90 95
 Phe Gln Val Ser His Ser Phe Pro His Pro Leu Tyr Asp Met Ser Leu
 100 105 110
 Leu Lys Asn Arg Phe Leu Arg Pro Gly Asp Asp Ser Ser His Asp Leu
 115 120 125
 Met Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu Thr Asp Ala Val Lys
 130 135 140
 Val Met Asp Leu Pro Thr Gln Glu Pro Ala Leu Gly Thr Thr Cys Tyr
 145 150 155 160
 Ala Ser Gly Trp Gly Ser Ile Glu Pro Glu Glu Phe Leu Thr Pro Lys
 165 170 175
 Lys Leu Gln Cys Val Asp Leu His Val Ile Ser Asn Asp Val Cys Ala
 180 185 190
 Gln Val His Pro Gln Lys Val Thr Lys Phe Met Leu Cys Ala Gly Arg
 195 200 205
 Trp Thr Gly Gly Lys Ser Thr Cys Ser Gly Asp Ser Gly Gly Pro Leu
 210 215 220
 Val Cys Asn Gly Val Leu Gln Gly Ile Thr Ser Trp Gly Ser Glu Pro
 225 230 235 240
 Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val Val His Tyr
 245 250 255
 Arg Lys Trp Ile Lys Asp Thr Ile Val Ala Asn Pro Gly Ser Met Ala
 260 265 270
 Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile Leu Gly
 275 280 285
 Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly
 290 295 300
 Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
 305 310 315 320
 Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
 325 330 335
 Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
 340 345 350
 Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
 355 360 365
 Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
 370 375 380

156

Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
 385 390 395 400
 Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
 405 410 415
 Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
 420' 425 430
 Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
 435 440 445
 Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
 450 455 460
 Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
 465 470 475 480
 Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
 485 490 495
 Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
 500 505 510
 Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser Glu Phe Met Val
 515 520 525
 Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala Gln Leu
 530 535 540
 Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu Ala Ala
 545 550 555 560
 Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu
 565 570 575
 Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly Leu Val
 580 585 590
 Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly Arg Tyr
 595 600 605
 Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile Leu Leu
 610 615 620
 Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu Leu Cys
 625 630 635 640
 Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly Val Gly
 645 650 655
 Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu Ala Leu
 660 665 670
 Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala Tyr Ser
 675 680 685
 Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr Leu Leu
 690 695 700
 Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu Gly Thr

705		710		715		720
Gln Glu Glu Cys	Leu Phe Gly Leu Leu Thr	Leu Ile Phe Leu Thr	Cys			
	725		730			735
Val Ala Ala Thr	Leu Leu Val Ala Glu	Glu Ala Ala Leu Gly	Pro Thr			
	740		745			750
Glu Pro Ala Glu Gly Leu Ser	Ala Pro Ser Leu Ser	Pro His Cys Cys				
	755		760			765
Pro Cys Arg Ala Arg Leu	Ala Phe Arg Asn Leu Gly	Ala Leu Leu Pro				
	770		775			780
Arg Leu His Gln Leu Cys	Cys Arg Met Pro Arg	Thr Leu Arg Arg	Leu			
	785		790			800
Phe Val Ala Glu	Leu Cys Ser Trp Met	Ala Leu Met Thr	Phe Thr	Leu		
	805		810			815
Phe Tyr Thr Asp	Phe Val Gly Glu Gly	Leu Tyr Gln Gly	Val Pro	Arg		
	820		825			830
Ala Glu Pro Gly Thr Glu	Ala Arg Arg His Tyr Asp	Glu Gly Val Arg				
	835		840			845
Met Gly Ser Leu Gly Leu	Phe Leu Gln Cys Ala	Ile Ser Leu Val Phe				
	850		855			860
Ser Leu Val Met Asp	Arg Leu Val Gln Arg	Phe Gly Thr Arg	Ala Val			
	865		870			875
Tyr Leu Ala Ser	Val Ala Ala Phe Pro	Val Ala Ala Gly	Ala Thr	Cys		
	885		890			895
Leu Ser His Ser	Val Ala Val Val Thr	Ala Ser Ala Ala	Leu Thr	Gly		
	900		905			910
Phe Thr Phe Ser	Ala Leu Gln Ile Leu	Pro Tyr Thr Leu	Ala Ser	Leu		
	915		920			925
Tyr His Arg Glu Lys Gln	Val Phe Leu Pro Lys	Tyr Arg Gly Asp Thr				
	930		935			940
Gly Gly Ala Ser Ser	Glu Asp Ser Leu Met	Thr Ser Phe Leu Pro	Gly			
	945		950			955
Pro Lys Pro Gly	Ala Pro Phe Pro Asn	Gly His Val Gly	Ala Gly	Gly		
	965		970			975
Ser Gly Leu Leu Pro	Pro Pro Pro Ala	Leu Cys Gly Ala	Ser Ala	Cys		
	980		985			990
Asp Val Ser Val Arg	Val Val Val Gly	Glu Pro Thr Glu	Ala Arg	Val		
	995		1000			1005
Val Pro Gly Arg Gly	Ile Cys Leu Asp	Leu Ala Ile Leu	Asp Ser	Ala		
	1010		1015			1020
Phe Leu Leu Ser Gln	Val Ala Pro Ser	Leu Phe Met Gly	Ser Ile	Val		
	1025		1030			1035
						1040

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Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala Gly Leu
1045 1050 1055

Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp Lys Ser
1060 1065 1070

Asp Leu Ala Lys Tyr Ser Ala
1075

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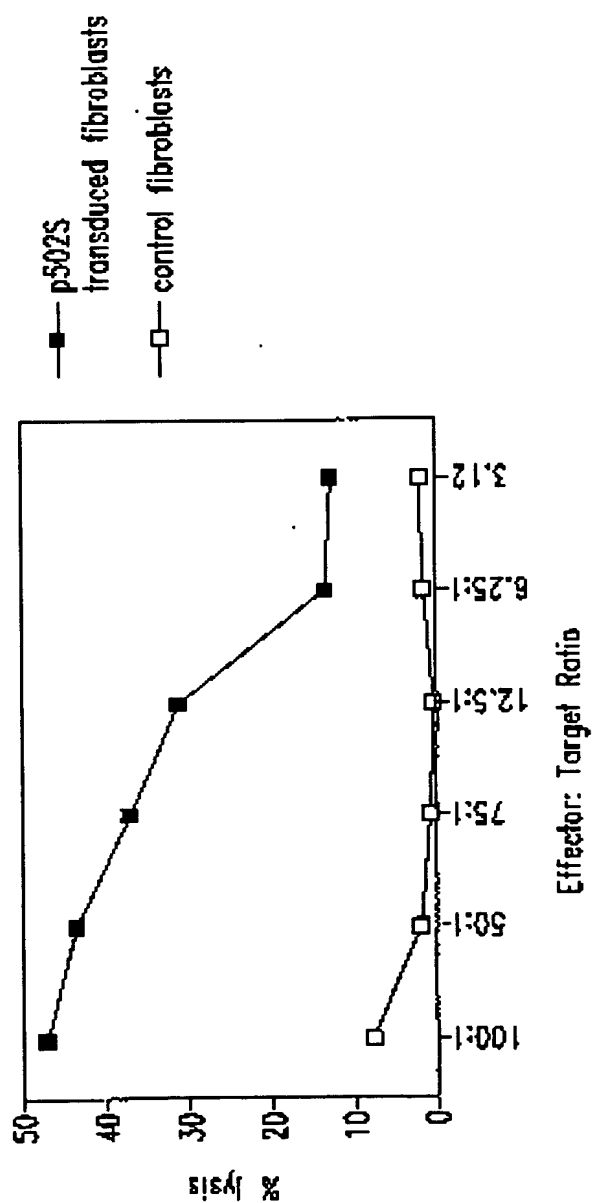
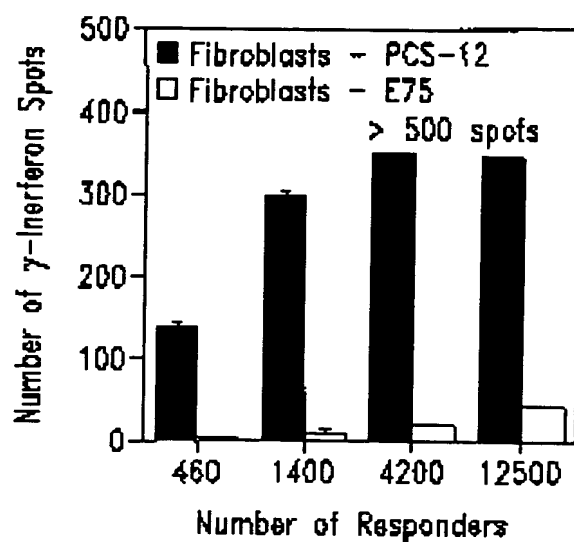
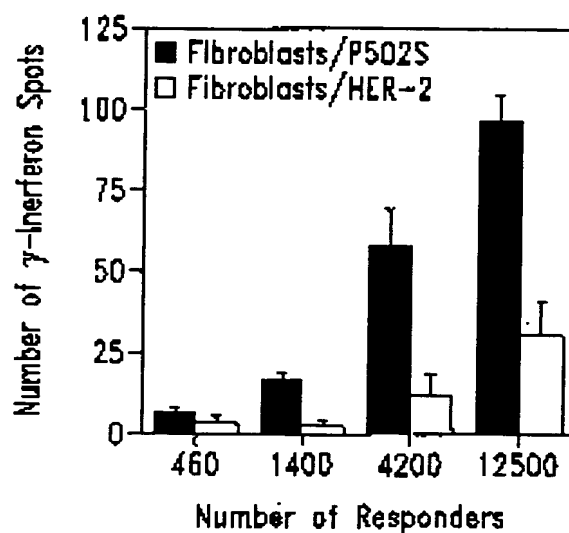


Fig. 1

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*Fig. 2A**Fig. 2B*

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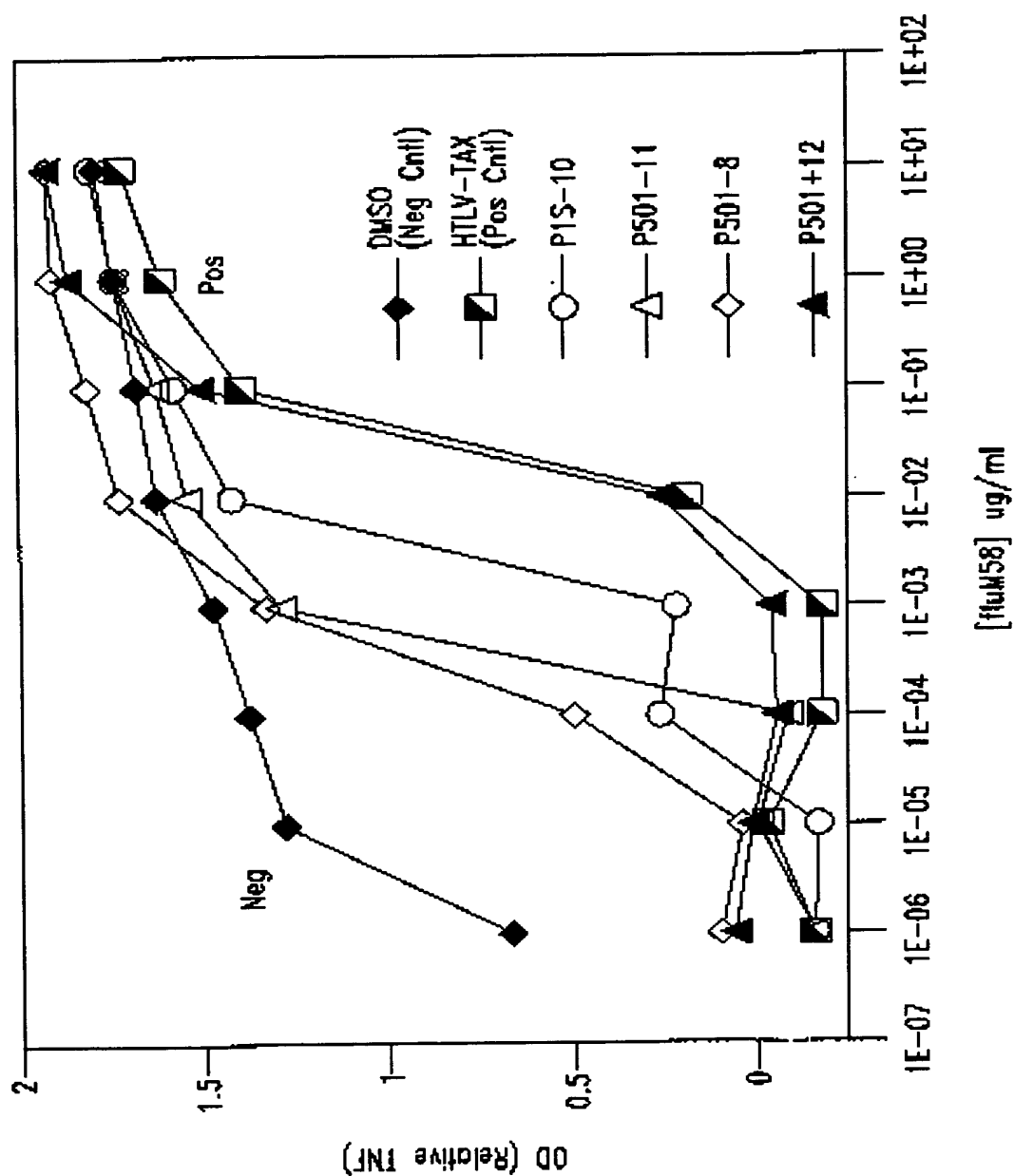


Fig. 3

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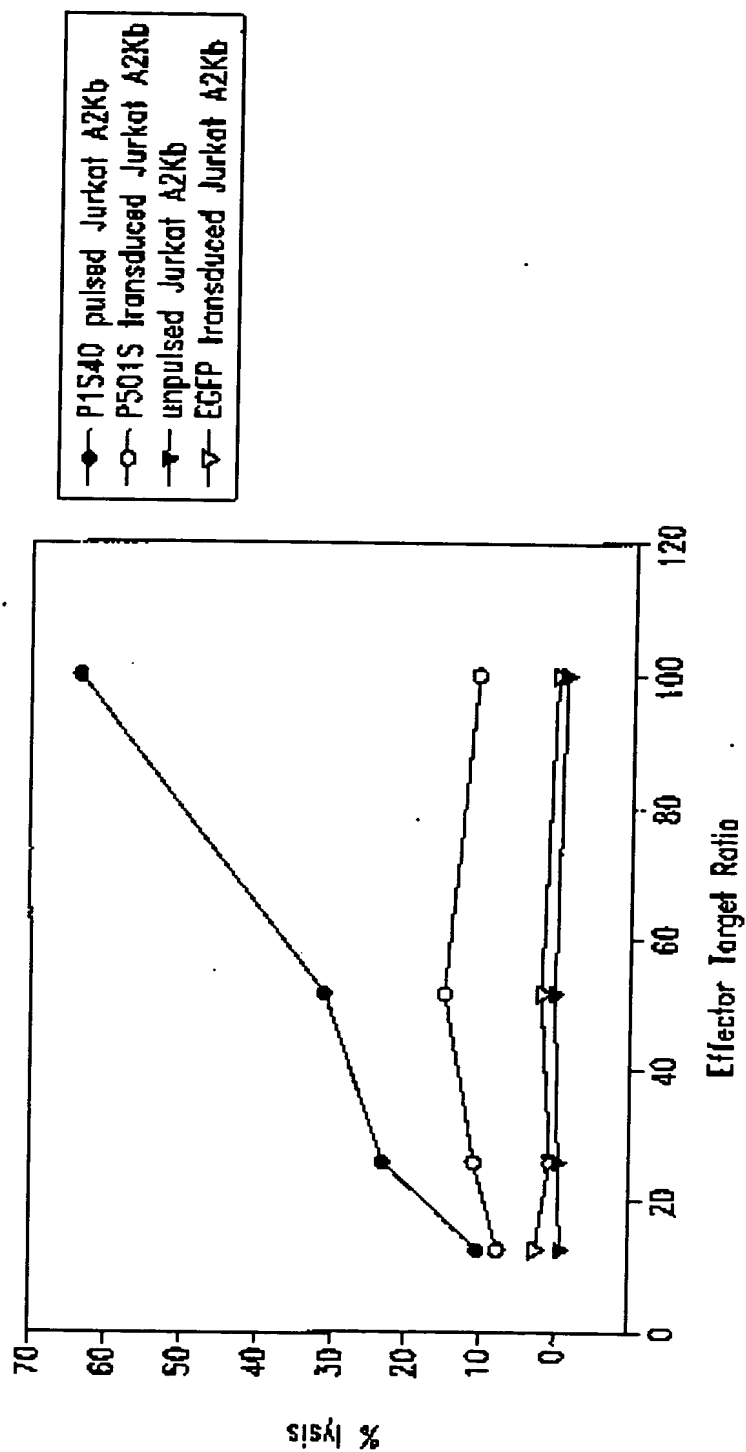


Fig. 4

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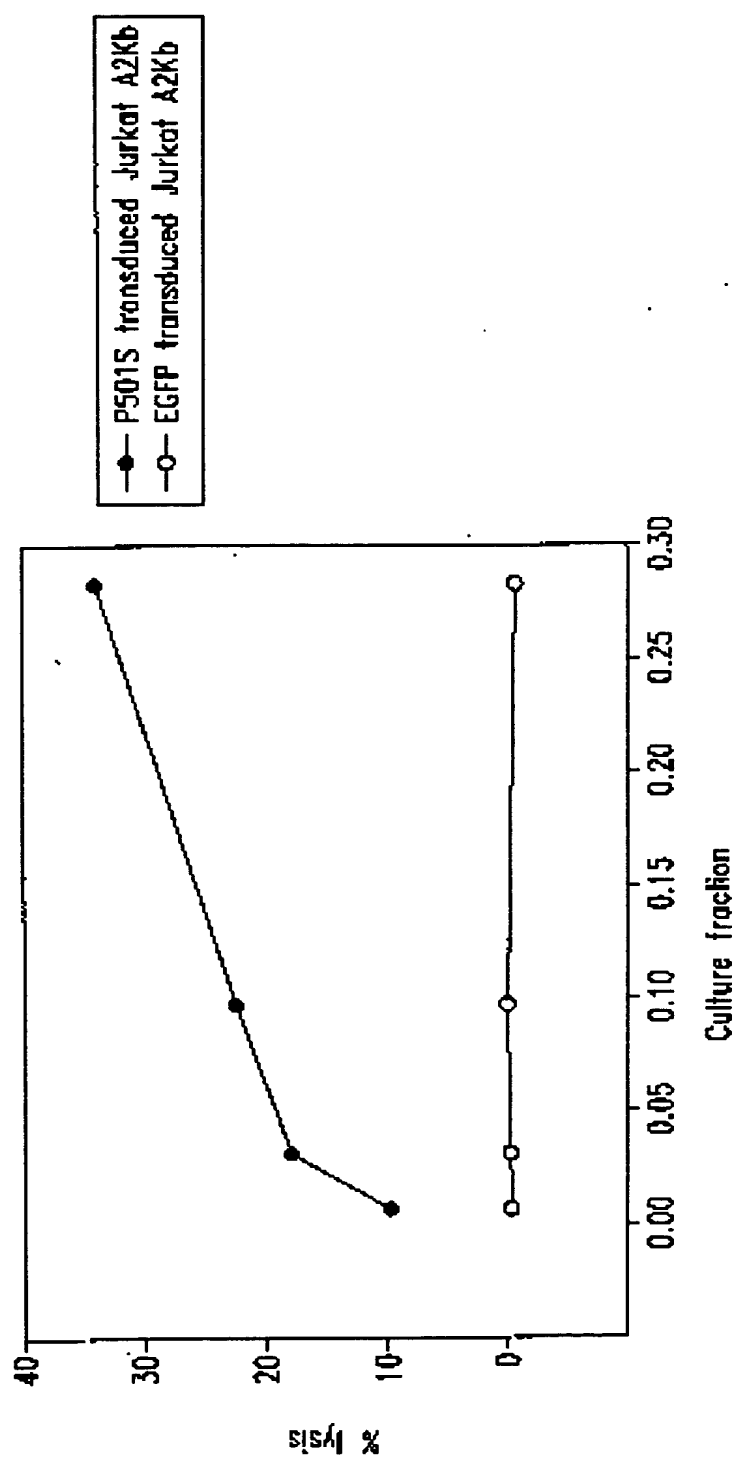
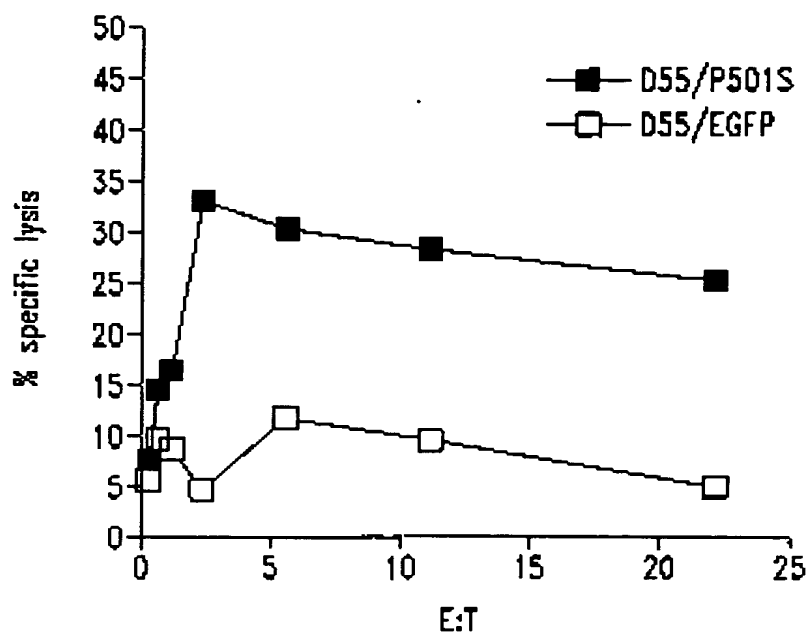
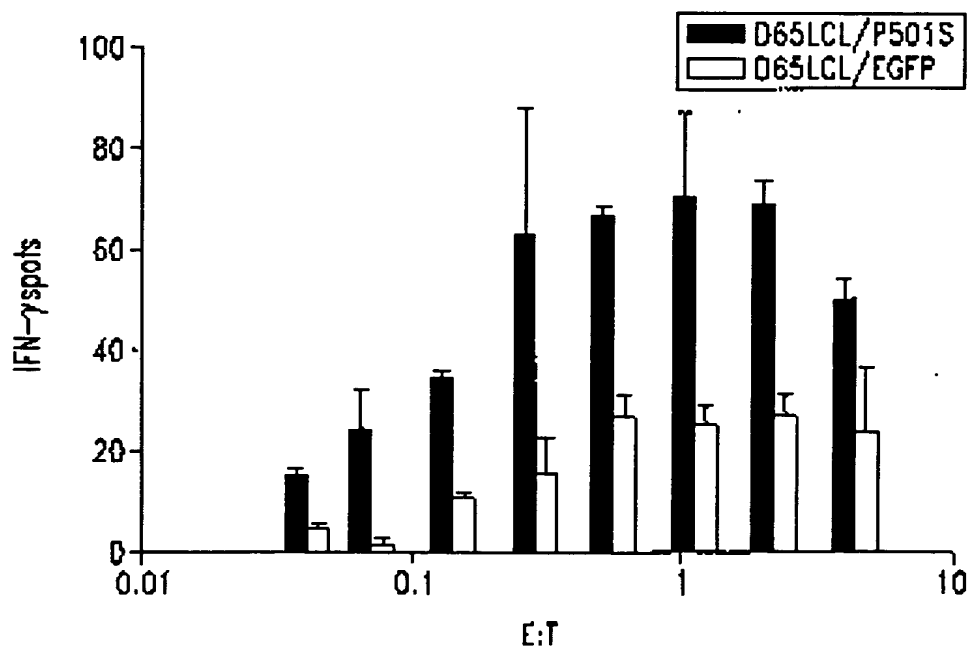


Fig. 5

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*Fig. 6A**Fig. 6B*

SEQUENCE LISTING

<110> Corixa Corporation et al.

<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND
DIAGNOSIS OF PROSTATE CANCER

<130> 210121.534PC

<140> PCT

<141> 2000-10-04

<160> 476

<170> FastSEQ for Windows Version 3.0

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<211> 814

<212> DNA

<213> Homo sapien

<220>

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<222> (1)...(814)

<223> n = A,T,C or G

<400> 1

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ccagggggtc	cagtcctctc	cttacttcca	tcccatctcc	atgccaaagg	aagaccctcc	180
ctccttggtc	cacagccttc	tctaggettcc	ccagtgcctc	caggacagag	tgggttatgt	240
tttcagctcc	atccttgetg	tgagtgtctg	gtgcgtttgtg	cctccagott	ctgctcagtg	300
cttcattggac	agtgtccagc	acatgtcact	ctccactctc	tcagtgtgga	tccactagtt	360
ctagagcggc	cgtccacggc	gtggagctcc	agctttttgtt	cccttttagtg	agggttaatt	420
gcgcgcttgg	cgtaatcatg	gtcataactg	tttcctgtgt	gaaattgtta	tcgcctcaca	480
attccacaca	acatacagac	cgtgaagcata	aagtgtaaag	cctgggggtgc	ctaattagtg	540
anctaactca	cattaattgc	gttgcgctca	ctgnccgctt	tccagtcngg	aaaactgtcg	600
tgccagctgc	attaatgaat	cggccaacgc	ncggggaaaa	gggttttgcc	ttttgggggc	660
tcttcgctct	ctcgtcact	nantcctgcg	ctcgttcntt	cggctgcggg	gaacqgtatc	720
actcctcaaa	ggnggtatta	cgtttatccn	naaatcnggg	gataccnngg	aaaaaatntt	780
aacaaaaggg	cancuaaggg	cnguaaacgt	aaaa			814

<210> 2

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(816)

<223> n = A,T,C or G

<400> 2

acagaaatgt	tggatgggtg	agcaaccttc	tatacagactt	acaggacagc	agatggggaa	60
ttcatggctg	ttggagcaat	agaaccccag	ttctacagagc	tgctgatcaa	aggacttggg	120
ctaaagtctg	atgaacttcc	caatcagatg	agcatggatg	attggccaga	aatgaagaag	180
aagttttcag	atgtatttgc	aaagaagacg	aaggcagagt	ggtgtcaaat	ctttgacggc	240
acagatgoot	gtgtgactcc	ggttctgact	tttgaggagg	ttgttcatca	tgatcacaac	300
aaggaaacggg	gctcgtttat	caccagttag	gagcaggagc	tgagcccccg	cccttcaccc	360
ctgctgttaa	acaccccagc	cattccttct	ttcaaaaagg	atccactagt	tctaggaagc	420
gcgcgcaccc	cgggtggagct	ccagcttttg	ttcccttttag	tgaqqqlcaa	ttgcgcgcct	480

2

ggcgtaatca	tggatcatagc	tgtttcctgt	gtgaaattgt	tatccgctca	caattccccc	540
aacatacgag	ccggaacata	aagtgttaag	cctgggggtgc	ctaagtantg	agctaactcn	600
cattaattgc	gttgcgctca	ctgcccgtt	tucagtcggg	aaaactgtcg	tgccactgcn	660
ttantgaatc	ngccaccccc	cgggaaaagg	cggttgcntt	ttgggcctct	tccgcttcc	720
tcgctcattg	atcctngcnc	ccggtcttcg	gtcgcggnga	acggttcact	cctcaaggge	780
ggtnfnccgg	ttatccccaa	acnggggata	ccngga			816

<210> 3
 <211> 773
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(773)
 <223> n = A,T,C or G

<400> 3	
cttttgaag	50
tccgtctct	120
tcccaaaag	180
tctgccttcg	240
tccatgctca	300
tctgtagaact	360
gtcgtataga	420
ccaattcgcc	480
gtgactggga	540
ccagctgggc	600
gaatgggnaa	660
accccccacnt	720
cttcccttcc	773

<210> 4
 <211> 828
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(828)
 <223> n = A,T,C or G

<400> 4	
cctcctgagt	60
aatgggcg	120
tcggaaaccc	180
acgtgggtga	240
agagtggaca	300
acaatgcctg	360
gngggcactg	420
ctanagcggc	480
gogcgcttgg	540
attccacaca	600
ctaactcaca	660
ccncttgcat	720
tccgcttcc	780
accnccctca	828

<210> 5
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 5
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 agtttttaatt gcatccaaag tactaacasa aactctagca atcaagaatg gcagcatgtt 120
 attttataac aatcaacacc tgtggctttt aaaatttggt ttccataaga taattttatac 180
 tgeagtaaat ctaggcatgc ttttaaaaaa tgcttttaggt cactccaagc ttggcagtta 240
 acattttggca taaacaataa taaaacaatc acaatttaat aaataacaaa tacaacattg 300
 tagggcataa tcatatacag tataaggaaa aggtggtagt gttgagtaag cagttattag 360
 aatagaatac ctggccctct atgcaaatat gtctagacac ttgattcac tcagccctga 420
 cattcagttt tcaaagtagg agacagggtt tacagtatca tttacagtt tccaacacat 480
 tgaaaacaag tagaaaatga tgagttgatt ttatttaatg cattacatcc tcaagagtta 540
 tcaccaacccc ctacagttata aaaaattttc aagtttatatt agtcatataa cttggtgtgc 600
 ttatttttaa ttagtgttaa atggattaag tgaagacaac aatggtcccc taatgtgatt 660
 gatattggtc atttttacca gcttctaatt cttaactttc aggtttttga actggaacat 720
 tgnatnacag tgttccanag ttccaacctc ctggaaacatt acagtgtgct tgattcaaaa 780
 tgttattttg ttaaaaatta aattttaacc tggtygaaa ataatittga atna 834

<210> 6
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 6
 tttttttttt tttttttttt aagaccctca tcaatagatg gagacataca goaatagtca 60
 aaccacatct acaaaatgcc agtatcagga gggggcttcg aagocaaagc galgilllga 120
 tgtaaagtga aatattagtt ggcggatgaa gcagatagtg aggaaggttg agccaataat 180
 gacgtgaagt cagtgaagc nlgllgclac aaaaaelgl agcccgtaga tcccgtcgga 240
 aatggtgaag gggagclcga agkactctga ggcctttagg agggtaaaat agagacccag 300
 taaaattgla ataeagcagt cttgaattat ttggtttcgg ttgttttcta ttagactatg 360
 gtgaqlcag gtgattgata ctactgatgc gagtaatacg gatgtgttta ggagtcggac 420
 ttctagggga tttagcgggg tgatgcctgt tgggggccac tgcctccta gttggggggg 480
 aggggctagg ctggagtggg aaaaaggctc gaaaaatcct gcaagaaaa aaacttctga 540
 ggtaatatat aggattatcc cgtatcgaag gccttttttg acaggtggtg tgtggtggcc 600
 ttggtatgtg ctttctcgtg ttacatcggc ccatcatttg tatatggtta gtgtgttggg 660
 ttantanggc ctantatgaa gaacttttgg antggaatta aatcaatngc ttggccggga 720
 gtcattanga nggctnaaaa ggcctgtta ngggtctggg ctnggtttta cccnaccat 780
 ggaatnccc cccgggacna ntgnatccct attcttaa 818

<210> 7
 <211> 817
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(817)
 <223> n = A,T,C or G

<400> 7
 ttttllllll tttttttttt tggctctaga gggggtagag ggggtgctat agggtaata 60
 cgggcccctat ttcaagatt tttaggggaa ttaattctag gacgatgggt atgaaactgt 120
 gggttgctcc acagatttca gacattgac cgtagtatac cccggctcgt gtageggtaga 180

aagtgttltg	gttttagacgt	ccgggaatttg	oatctgtttt	taagcctaata	gtggggacag	240
ctccltaglq	caagacgtcl	tgtgtgttga	tcattatacn	aatgggggct	tcaatcggga	300
gtactactcg	attgtcaacg	tcaaggagtc	gcaggtcggc	tgttcttagg	aataatgggg	360
gaagtatgtg	ggaaattgaag	attaatccgc	cgtagtcggg	gttctcttag	gttcaatacc	420
attggtggcg	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtat	480
aggatncctt	ngggatggga	aggcnatnaa	ggactangga	tnaatggcgg	gcangatat	540
tcaaacngtc	tctanttcct	gaaacgtctg	aatgttaast	aanaattaan	tttngttatt	600
gaatnttngg	gaaaagggct	tacaggacta	gaaaccaaat	angaaaanta	atnntaangg	660
cnttatcntn	aaaggtatata	accnctccta	tnatcccacc	caatngnatt	ccccacncnn	720
acnattggat	nceccanttc	canaaanggc	cnccccccg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttatctnc	ccttngcntt	atcance			817

<210> 8

<211> 799

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)..(799)

<223> n = A, T, C or G

<400> 8

catttcgggg	tttactttct	aaggaaagcc	gagcgggaagc	tgttaacgtg	ggaaatcggtg	60
cataaggaga	actttcttct	ggcacgcgct	agggacaagc	gggagagcga	clccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcactgaaac	agctgggaca	catcogcgag	180
tacgaacagc	gcctgaaggt	gctggagcgg	gaggtccagc	agtgtagccg	cgtcctgggg	240
tgggtggccg	angcctganc	cgtcttgcct	tgttgcctcc	angtgggccc	ccaccccttg	300
acctgcctgg	gtccaaacac	tgaacctgc	tggcggactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcgccc	ccccacactg	gttggccttg	420
tctttgangt	gagccccatg	tccatctggg	ccactgtcng	gaccaccttc	ngggagtggt	480
ctccttacaa	ccacannatg	cccggtcct	cccggaacc	antccancc	tnggaaggt	540
caagnccctg	atccactnnt	ncatnaaccg	gcncncnccg	cngtggaaac	cnccttntgt	600
tcttttctnt	tnagggttaa	tnnccgcttg	gccttcccan	ngtccctnnc	ntttccnnt	660
gttnaaattg	ttangcnccc	ncnntcccn	cnnnnnnnan	cccgaaccnn	annttannnn	720
ncctgggggt	ncnnnngat	tgcccnnc	ncctntant	tgcnttnggg	nnnnntgccc	780
ctttccctct	ngggannccg					799

<210> 9

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)..(801)

<223> n = A, T, C or G

<400> 9

acgccttgat	cctcccaggg	tgggaactgg	tctgggagga	gcccgggcatg	ctgtggtttg	60
taangatgac	actcccaaa	gtggtcctga	cagtggcuua	gatggacatg	gggctcacct	120
caaaggacaa	gccaaccagg	gcgggggccc	aagccacat	gacccctact	ctatgagcaa	180
aatcccctgt	gggggcttct	ccttggaagtc	cggccanccg	gctcagtcct	tggacccang	240
caaggtcatgg	ggttgtngnc	caactggggg	cnnuaacgca	aaangggcnca	gggcccfcngn	300
cacccctccc	angacgcggc	tacactnctg	gaacctccnc	lccanccatt	tcatgcgctg	360
ttcntaccng	cgnatntgtc	ccacttgttt	cngtgcenac	tccancttct	nggaagtgog	420
ctacatacgc	cgggantcnc	ncctccgctt	tgtccclatc	cacgttccan	caauaaattt	480
cncctantng	caccnattec	carnttttnc	agntttccnc	nnccngcttc	cttnlcaaaa	540
ggttganccc	cggaaaatnc	cccaaagggg	gggggcccng	taccccaactn	ccccctnatg	600
gctgaantcc	ccatnacenn	gnetcnatgg	ancntccnt	tttaannacn	ttctnaactt	660
gggaanancc	ctcgnccntn	ccccnttaa	tccncccttg	cnangnnent	cccccnntcc	720
ncccnntng	gcntntnann	cnaaaaaggc	cnnnnancaa	tctcctnnnn	cctcanttcc	780

ccanccctcg aatcgccn c

801

<210> 10
 <211> 789
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 10
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 acagtggtggc cgtgggtgaca gcttcagccg ccttcacccg gttcaccttc tcagccctgc 120
 agatccctgcc ctacacactg gctccctct accaccggga gaagcaqytq ltcclgcccc 180
 aataccgagg ggacactgga ggtgctagca gtgaggacag cclgatgacc agcttcctgc 240
 caggccctaa gctggagct ccttcctta atggacacgt gggltgclgga ggcagtgccc 300
 tgcctccacc tcaccccgch ctctccgggg cctctgcttg tgatgtctcc gtacgtgtgg 360
 tgggtgggtga gccaccggan gccagggtgy ttccggggcc gggcatctgc ctggacctcg 420
 ccatectgga taqgtcttcc tgcclgcccc nglggccccc tccctgttta tgggtctccat 480
 tgtccagctc agccagctctg tcaactgcctc tatgggtgtct gccgcaggcc tgggtctggt 540
 ccattttact ttgtacaccc agtctatatt gacaagaacg anttggccaa atactcagcg 600
 tlaaaaaall ccagcaacct tgggggtgga aggcctgcct cactgggtcc aactcccgcc 660
 tctgtttaac cccatggggc tgcgggttg gccgcccaatt tctgttgctg ccaantnat 720
 glggctctct gctgccacct gttgctggct gaagtgcnta cngcncanct nggggggtng 780
 gmggttccc 789

<210> 11
 <211> 772
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11
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 tttgttaaat caataagtta aatattttaa tgcctgtgtc tctgtgatgg caacagaagg 120
 accaacaggc cacatcctga taaaaggtaa gaggggggtg gatcagcaaz aagacagtgc 180
 tgtgggctga ggggaacctg ttcttgtgtg ttgcccctca ggactcttcc cctacaaata 240
 actttcatat gtccaatcc catggaggag tgtttcatcc tagaaactcc catgcaagg 300
 ctacattaaa cgaagctgca ggttaagggg cttnagatg gnaaccagg tgauctgaglt 360
 tattcagctc ccaaaaacc ttctctaggt gtgtctcaac taggggggtg gctgttaacc 420
 ctgagcctgg gtaatccacc tgcagagtc ccgcattcca qtgcatgga cncitctggc 480
 ctccctgtat aagtccagac tgaacccccc ttggaaggnc tccagtcagg cggccctana 540
 aactggggaa aaaaagaaaag gacgcccann ccccagctg tgcantctng cactcaaca 600
 gcacagggtg gcagcaaaaa aaccacttta utttggcaca aacaaaaact ngggggggca 660
 accccggcac cccnangggg qlaacacga ancggggnea cntggaacnc aattnaggca 720
 ggcuncuau cuunaatntt gctgggaaat ttllcctccc ctaaattntt tc 772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12

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agctgattga	agcaaccctc	tacttttttg	togtgagcct	tttgcttggt	gcagggtttca	120
ttgctgtgt	tggtgacgtt	gtcattgcac	cagaatgggg	gaaaggcact	gttctctttg	180
aaqlongqlg	agtcctcaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atggtggtgt	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggccclacca	gcaacgtcag	ggaagtgtct	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gagganagtg	aagaagaacg	tcncgagggc	420
acacttgctc	tcagtcttan	caccctanca	gcccctgaaa	accaananca	aagaccacna	480
cncnggctgc	gctgaagaaa	tnaccccncc	ttgavaaact	tgcatggcac	tggganccac	540
agtggccena	aaaatcttca	aaaaggatgc	cccatcnatt	gaccccccaa	atgcuccautg	600
ccaacagggg	ctgccccacn	cncnnaacga	tgancnatt	gnacaagatc	tnonlqqict	660
tnatnaamt	gaacnctgcn	tngtggctcc	tgttcaggnc	cnnqggcclg	cttctnaann	720
aangaactcn	gaagncacca	cngganannc	g			751

<210> 13

<211> 729

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}... (729)

<223> n = A,T,C or G

<400> 13

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tgtgganccct	cagcagtncc	ctctttcaga	actcantgcc	anganccttg	aacaggagcc	120
accatgcagl	gttccagctt	cattaagacc	atgatgatcc	lcllcaattt	gtcctctctt	180
ctgtgtggtg	cagccctgtt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tcgggcccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggctacttc	300
ctcatcgccag	ccggcggttg	ggtcttagct	ctaggtttcc	tgggctgcta	tgggtgctaag	360
actgagagca	agtgtgccct	ogtgacgttc	ttcttcatcc	tcctcctcat	cttcattgct	420
gaggttgcaa	tgtgtggtc	gccttggtgt	acaccacaat	ggctgagcac	ttcctgacgt	480
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aaagantucac	ctacttcaaa	gaaaaanagt	cctttccccc	atttctgttg	caattgacaa	660
ccytrcccaa	cacagccaat	tgaaaacctg	cacccaaccc	aaanggggtc	ccaaccanaa	720
ellnaaqgg						729

<210> 14

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}... (816)

<223> n = A,T,C or G

<400> 14

tgtctcttcc	caaagttgtt	cttgttgcca	taacaaccac	cataggtaaa	gcgggcgccag	60
tgttcgctga	aggggttgta	gtaccagcgc	gggatgctct	ccttgccagag	tcctgtgtct	120
ggcaggtcca	cgcagtgcac	tttgtcaact	gggaaatgga	tgcgctggag	ctcgtcaaag	180
ccactcgtgt	atttttcaca	ggcagcctcg	tcocagcgcg	cggggcagtt	gggggtgtct	240
tcacactcca	ggaactgtc	natgcagcag	ccattgctgc	agcgggaactg	gggtggctga	300
canqtgccag	agcacactgg	atggcgccct	tcocatgnan	gggcccctgng	ggaaagtccc	360
tganoccccn	anctgcctct	caaangcccc	accttgccaca	ccccgavagg	ctagaatgga	420
atctlcttcc	cgaaaggtag	ttnttcttgt	tgcccaancc	ancccnctaa	acaaactctt	480
gcanaletgc	lccgngggcg	tcntantacc	ancgtgggaa	aaqaacucca	agcnygaaac	540
caanchtqlk	tggatnccag	gcnaaatct	ncnttctctgc	ctggtggacc	gcaccanlna	600

ctgttnanct	ttagnccntg	gtectcntgg	gttgnncttg	aacctaaten	ccnntcaact	660
gggacaaggt	aantngccnt	cctttnaatt	cccnanccntn	ccccctgggt	tggggctttt	720
cncnctccta	ccccagaaan	ncogtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaaacctn	ccccaccac	gggttcngnt	ggttng			816

<210> 15

<211> 783

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(783)

<223> n = A,T,C or G

<400> 15

ccaaggcctg	ggcaggcata	nacttgaagg	tacaaaccca	ggaacccctg	gtgctgaagg	60
atgtggaaaa	cacagaltgg	ggcctactgc	ggggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccagggtgaa	clglggggac	tcaagggaang	caoctacctg	ttccagctga	180
cagtgaacta	ctcagaccac	ccagaggaca	cggccaacgt	cacagtcaat	gtgctgtcca	240
ccaggcagac	agagactac	tgcttcgcac	ccaacaangt	gggtcgtgc	cggggctctt	300
tcccaactgt	gtactatgac	cccacggagc	agatctgcaa	gagtttcgtt	tatggaggct	360
gcttgggcaa	caagaacaa	taccttcggg	aagaagagt	cattctancc	tgtcnggggt	420
tgcaaggttg	gcctttgana	ngcanctctg	gggtcangc	gaatttcccc	cagggtcccc	480
ccatggaaa	gcgcacatcca	ntgttctctg	gcacctgtca	gcccacccag	llcagclgca	540
ncaatggctg	ctgcacnac	antttcctng	aattgtgaca	acacccccca	ntgcacccaa	600
ccctcccaac	aaagcttccc	tgttnaaaaa	taacccantt	ggctttlnac	aaacnccggg	660
cncctccntt	ttcccccnnn	aacaaagggc	ncctngcctt	gaactgcccc	aacccnggaa	720
tctnccnngg	azaaantncc	ccccctgggt	cctnaaancc	cctcccncaa	antncccccc	780
ccc						816

<210> 16

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 16

gcccccaattc	cagctgccac	accacccacg	gtgactgcct	taqllcggat	gtcatacaaa	60
agctgattga	agcaacccctc	tacttttttg	tcgtgaagcc	tttgccttgg	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	caggatgggg	gaaaggcact	gttctctttg	180
aagtaggggtg	agtcctcaaa	atccgtataq	tlggltgaagc	cacagcactt	gagcccttcc	240
atggtggtgt	tccacacttg	aglgaaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	gaaqtgclca	gccattgttg	tgtacacca	ggcgaccaca	360
gcagctgcaa	cctcagcaat	gaagctgagg	aggaggatga	agaagaacgt	cncgagggca	420
caattgctct	cugctcttagc	accctagcag	cccangaaac	caagagcaaa	gaccacaacg	480
ccngctyuga	atgaagaqaa	ntacccacgt	tgacaaaactg	catggccact	ggagagacgt	540
tgycocqaan	atcttcagaa	aaaggatgcc	ccatcgattg	aacacccana	tgccactgc	600
cnacaggggt	gcnccnccn	gaaagaatga	gccattgaag	aaggatcctc	ntggcttta	660
tgaaactqaa	ccntgcacgt	tgccccctgt	tcagggtctc	tggcagtgaa	ttctganaaa	720
aaqqaaahgc	ntnagccccc	ccaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	780
gyccaaqqaan	cactgccccn	g				801

<210> 17

<211> 740

<212> DNA

<213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(740)
 <223> n = A, T, C or G

<400> 17
 gtgagagcca ggcgtccctc tgcctgcccc ctcaqtggca acacccggga gctgttttgt 60
 cctttgtgga ggcctcagag ttccctcttt vaggactcac tgccaaagag cctgaacagg 120
 agccaccatg cagtgcttca gcttcattaa gacctgatg atcctcttca atttgclcat 180
 ctllctgtgt ggtgcagccc tgttggcagt gggcatctgg gtgtcaatcg atggggcctc 240
 ctttctgaa gctctggggc cctgtctgtc cagtgccatg cagtttgtca acgtgggcta 300
 ctloctcctc gcagcccgag ttgtgggtctt tgcctttggg ttccctgggt gctataggtag 360
 taagagggag agcaagtgt cctcctgtgac gttctctctc atcctcctcc tcatacllcat 420
 tgcctgaagt gcagctgctg tggctgcctt ggtgtacacc acaatggctg aaccttccct 480
 gacgttgctg gtantgcctg ccatcaanaa agattatggg tcccagga aaattcactc 540
 aantntggaa caccnccatg aaaagggctc caatttctgn tggcttcccc aactstaccg 600
 gaattttgaa agantcnccc tacttccaaa aaaaaanant tgccttttnc cccntttctgt 660
 tgcaatgaaa acntcccaan acngccaatn aaaacctgcc cnnncaaaaa ggntcncaaa 720
 caaaaaaant nnaagggttn 740

<210> 18
 <211> 802
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(802)
 <223> n = A, T, C or G

<400> 18
 ccgctgggtt cgcctggcca gngnagccac gaagcacgtc agcatacaca ggcctcaatca 60
 caaggtcttc cagctgcgcg acattacgca gggcaagagc ctccagcaac actgcatatg 120
 ggatacactt tacttttagca gccagggtga caactgagag gtgtcgaagc ttattcttct 180
 gagcctctgt tagtggagga agattccggg cttcagctaa gtatgcagcg tatgtcccat 240
 aagcaaacac tctgagcagc cgggaaggtag aggcacaagc actctcagcc agctctctaa 300
 cattgggcct gtccagcagt tctccaaaca cgttagacacc agnnggcctcc agcacctgat 360
 ggatgagtggt ggcacagcgt gcccccttgg ccgacttggc taggagcaga aattgctcct 420
 ggttctgccc tgtcaccttc acttcgcgac tcatcaetgc actgagtgtg ggggacttgg 480
 gctcaggatg tccaagagag tggttccguc cctctnctta atqacaccgn ccanncaacc 540
 gtcggctctc ggcyanngg ttcgtcgtnc ctgggacagg gtctgttggc cncctccltgc 600
 aancctctg nggcuatgg aatlcacnnc accgggaactn gcanqatcca ctnnkctct 660
 aaccgqncgc caccgcnntt ggaactccac tcllncllnc tctacttgag ggttaaggk 720
 acccttancg ttaccttggt ccaaaccntn centgtgtcg anathglnea tcnngncnca 780
 tncancnnc atangeagcc ng 802

<210> 19
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(731)
 <223> n = A, T, C or G

<400> 19
 cnaagcttcc aggtnacggg ccgonaancc tgaccunagg tancanaang cagnungcgg 60
 gagccuacgg tcaugngngg gngtutttat nqaggggggc ggaqccacat cncctggact 120
 cntgacccca aolcccnccc ncnanlga gtgatgagt cagaactgaa ggtnaugtgg 180
 caggaaucaa gancasannc tgcctcnntc caagtcggcn naggggggcg ggclggccac 240
 gencateent cnegtgtgn aaagcccn nctgtctact tgtttggaga acnqcnngya 300

catgccacagn	gttanat.sac	nggcngcgag	tnantttgcc	tetcccttc	gggtgcgcan	360
cgnqtntget	cagnggacat	aacctgacta	cttaactgaa	cccnngaato	tnccnccct	420
ccactaagct	cagsacaaaa	aacttcgaca	ccactcantt	gtcacctgnc	tgotcaagta	480
aagtgtaccc	catncccaat	gtntgctnga	ngctctgncc	tgcnttangt	tcggtcctgg	540
gaagacctat	caatttnaagc	tatgtttctg	actgcctctt	gotccctgna	acaancnacc	600
cnnctntcca	aggggggggnc	ggcccccaat	ccccccaacc	ntnaattinan	tttancccn	660
ccccnnggc	cggcctttta	cnancntcnn	nnacnnggna	aaaccnmgc	tttncccaac	720
nnaatccncc	t					731

<210> 20
 <211> 754
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(754)
 <223> n = A,T,C or G

tttttttttt	tttttttttt	taaaaacccc	ctccattnaa	lgnaaaacttc	cgsaattgtc	60
caacccccctc	ntccaaatnn	ccntttccgg	gnnggggggttc	caaaacccaan	ttanntttgg	120
annttaatt	aatnttnt	tgngggnnna	anccnaatgt	nangaaagtt	naacccanta	180
tnancttnaa	tnccctggasa	ccngtngntt	ccaaaaatnt	ttaaccetta	antccctccg	240
aatngtttna	nggaaaaccc	aantttctnt	aaggttggtt	gaaggntnaa	tnaaaaaccc	300
nnccaattgt	tttngccac	gcctgaatta	attgnttcc	gntgttttcc	nttaaaanaa	360
ggnnancccc	ggttantnaa	tccccccnnc	cccaattata	ccganTTTT	ttngaattgg	420
gancccnogg	gaattaacgg	ggnnnntccc	tnntgggggg	cnggnncccc	ccccntcggg	480
ggttngggnc	aggnccnaat	tgtttaaggg	tccgaaaaat	ccctccnaga	aaaaaanctc	540
ccaggttgag	nnnggggttt	cccccccccc	cangggccct	ctcgnaagt	tgggttttgg	600
ggggccctggg	attttnttcc	cccttttccc	tcccccccc	ccnqgganaq	aggttngngt	660
tttgnctnnc	gycccccncn	agyanctttn	ccgntttnn	ttaaatccnt	gcctnggcga	720
agtcncllqn	agggntaann	ggccccctnn	cggg			754

<210> 21
 <211> 755
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(755)
 <223> n = A,T,C or G

atcancccat	gaccccnacc	nnngggacnc	tcancoggnc	nnncnaccnc	gggcnatca	60
nngtanagnc	actncnnttn	natacncccc	cnccnactac	ggccnccnnc	cnacgcnccta	120
nnccanctnc	actqunngcg	cgangtngan	ngagaaanct	nalaaccanag	ncaccnaccn	180
ccagctgtcc	nanaangcct	nnnatacngg	nnnataccaat	ntgnanccctc	cnaggtattn	240
nnccnccanct	gatlttcccln	anccgcttac	ccntnccccc	lanccctccc	cccccaacna	300
cgaaggcnct	ggncconaagg	nnngcgnccc	ccgctagntc	cccnncagct	cnccncccta	360
aactcancnc	nallacncgc	tlcnlqagta	tcactccccg	aatctcaccc	tactcaactc	420
aaacaaatcn	gatcccaaat	aatncaagcc	tgnttatnac	actntgactg	ggtctctatt	480
ttagnggttc	ntnaancntc	ctaatacttc	cagctctncc	tcnccaattt	ccnaanggct	540
cttlcngaca	gcattntttt	gttcccnntt	gggttcttan	ngaattgccc	ttcntngaac	600
gggctcntct	tttccctcgg	ttanccctgg	ttcncccgcc	cagttattat	ttcccntttt	660
aaattcntnc	cntttanttt	tggcntccna	aaaccccgcc	cttgaaaaag	ggccccctgg	720
aaagggttgt	tttganaaaa	tttttgggtt	gtccc			755

<210> 22
 <211> 849
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(849)

<223> n = A,T,C or G

<400> 22

tttttttttt	tttttangtg	tngtctgtga	ggtagaggt	tactacaant	gtgaanacgt	60
acgctnggan	taangcgacc	cgantctctag	gannccnccct	aaaatcanac	tgtgaagatn	120
atcctgnnna	cggaanggtc	acgggungat	nntgctaggg	tgnccnctcc	cannnctttn	180
cataacteng	nggccttgcc	caccacottc	ggcgccccng	ngnccgggcc	cggttcattn	240
gnnttaaccn	cactnngcna	ncggtttccn	ncccnncng	acccngggga	tcgggggtnc	300
totgtcttcc	cctgnagncn	anaaantggg	ccnccgnccc	ctttacccct	nnacaagcca	360
engccnteta	ncnccngccc	ccctccant	nngggggaact	gccnanngt	ccgttncctng	420
nnacuccnnn	gggtncctcg	gttgtogant	cnaccgnang	ccanggatc	cnaagggaag	480
tgcgltnttg	gcccttacc	ttcgtctcgg	nnccaccttc	ccgacnanga	ncctctcccg	540
cncnngnng	cctcncctcg	caacacccgc	netctctngt	ncggnncccc	ccccaccgc	600
ncctcncnc	ngnccgnanc	ctcncnccc	gtctcannca	ccaccccgc	ccgcccaggg	660
ntcancnccn	ggnnagcngg	nagcncttc	gcnccgcgc	ccgnccct	cgccnccngaa	720
ctnctcngg	ccctcncgc	tcnccnccn	cnaaacgcgc	ctccgcgcgc	cgncgcgcgc	780
ncctcncncc	gtcctccgc	ctcncnccc	angnttccn	cgaggacacn	nncccccgc	840
nnccngcgg						849

<210> 23

<211> 872

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(872)

<223> n = A,T,C or G

<400> 23

gcgcacaacta	tactctgctc	gnactcgtgc	gcctcgtctc	tcttttctctc	cgcacaccatg	60
tctgacnanc	ccgattnggc	ngatctcnan	aagntcgcnc	agtccaaact	gantaacaca	120
cacacnncan	aganaaatcc	nctgccttcc	anagtanacn	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgca	atntgtcncc	gtttattntn	ccagctcnc	240
ctnccnacc	taoctctcn	nagctgtcnn	acccctngtn	cgnaccccc	naggtcggga	300
tcgggttttn	nttgaccgng	cnnccctcc	ccctctccat	nacganccnc	ccgcaccacc	360
nanngcncgc	nccccggnct	cttcgcncnc	ctgtcctntn	ccctgtngc	ctggenongn	420
accgcattga	ccctcgcncn	ctnccngaaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnnngcg	tctgcnccgc	gttccctccn	ncncttcca	ccctcttct	taacgggtct	540
ccnccctc	tcnnnccncc	cctgggacgc	tnctctntgc	ccccctnac	ccccccctt	600
cgnccgtgnc	cgncccccac	ntcatttnca	nacgntcttc	acaannncc	ggntnnctcc	660
cnaancngn	gtcancnag	gggaaggngg	ggnnccnntg	nttgacgttg	nggngnqtc	720
cgaanantcc	tcnccntcan	cctcccccct	cgggcggnct	ctcngttncc	aacllancaa	780
ntctccccc	ngngcnctc	tcagccclcc	ccncccccct	ctcgcantg	tactctgctc	840
tnacnnlacc	ganlcttcgn	cncctcttt	cc			872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(815)

<223> n = A,T,C or G

<400> 24

gcacgcaagc	ttgagkatto	tatagngtca	cctaaatanc	ttggcntaat	catggctnta	60
netqnettc	tqtgtcaaat	gtatacnaaa	tanatatgaa	tcctnatntga	caaganngtt	120
tentncatla	gteaccaantg	tnntgtccat	cctgtengaa	canallccca	tnnattncgn	180
cgcatcten	gncantala	taattngggaa	ntcnntnnn	ncacennccat	ctatctntcc	240
gcncocctgac	lggnagagat	ggatnattic	lnntntgacc	ncatgtttca	tcttggatln	300
aananccccc	cgcnngccc	cggttngng	cnagecnncc	ccaagacctc	ctgtggaggt	360
aacctgcgtc	agannccatc	aacntgggaa	acccgcnncc	angtnnaagt	ngnnncan	420
gaccccgctc	aggnttnacc	atccttctnc	agcgccccc	ttngtgcctt	anagnnagc	480
gtgtccnanc	cnctcaccat	ganacgcgc	agncanccg	caattnggca	caatgtcgc	540
gaacccccca	ggggggntha	tncaaanccc	caggattgtc	cnncangaa	atcccnanc	600
ccnccctac	cnncctttgg	gacngtgacc	aantcccgga	gtncacgtcc	ggcngnctc	660
ccccaccggt	nnccntgggg	gggtgaanct	cngnntcanc	cnngcaggn	ntcnaagga	720
accggnccn	ggncgaanng	ancmntcnga	agngcncnt	cgtataaacc	ccctcncca	780
nccnacngnt	agntcccccc	cnnggtncgg	aangg			815

<210> 25
 <211> 775
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1) ... (775)
 <223> n = A, T, C or G

ccgagatgtc	tgggtccgtg	gcctttagctg	tgtctggcgt	acacacacac	tctggcctgg	60
aggctatcca	gcgtacacca	aagatttcagg	tttactcacg	tcatccagca	gagaatggaa	120
agtcasattt	cctgaattgc	tatgtgtctg	ggtttcaccc	atccgacatt	gaanttgact	180
tactgaagaa	tggaagagaa	attgaaaaag	tggagcattc	agaattgtct	ttcagcaagg	240
actggctttt	ctatctcttg	tactacactg	aattcaccoc	cactgaaaaa	gatgagtatg	300
cctgcctgtg	gaaccatgtg	actttgtcac	agcccaagat	agttaagtgg	gatogagaca	360
tgtaagcagn	cnncatggaa	gtttgaagat	gccgcatttg	gattggatga	attccauatt	420
ctgtttgtct	gcnttttaat	antgatatgc	ntatacacc	taccotttat	gnccccaat	480
tgtaggggtt	acatnangt	tcnctnngga	catgatcttc	ctttataant	ccnccnttcg	540
aattgcctgt	cnccnggttn	ngaattgttc	cnnaaccacg	gttggctccc	ccaggtctcc	600
tcttacggaa	gggcttgggc	cnctttncaa	ggttggggga	acnnaaaatt	tcncttntgc	660
ccnccnccca	cnntcttng	nnccncttt	gggacccttc	cnatccccc	tggcctcnna	720
nccttnccta	anaaaaactn	aanccnglnc	naanncttn	acacacacac	tcacc	775

<210> 26
 <211> 820
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1) ... (820)
 <223> n = A, T, C or G

anattantac	agfgtaatct	tttccacag	gtgtgtanag	ggaacggggc	ctagaggaal	60
cccanagata	ncctatanc	acagtgcctt	gacaaagagc	tgctggggac	atttccacac	120
gaaaagggtg	cggtcccat	cactctctct	ctcccatagc	catccacag	gggtgagtag	180
ccatcangcc	ttcggtggga	gggagtcang	gaacaaacn	acacacagag	anacagaccc	240
ntgatgacca	tgggctggga	cgagcctctt	ccctgnaccg	gggtggcana	nganagccta	300
ncfgaggggt	cacactata	acgtlaacga	ccnagaln	caactgcttc	aagtgacac	360
ttcctaactg	acnaaccag	acnnnaact	gcngcctggg	gacagcctg	ggncagccta	420
acnnagcaat	caacaccccc	cccatggcng	tnccntccc	tggctcctgc	aggggaagct	480
ccctgttggg	attncggggg	naccaaggga	nccccctct	ccanctgtga	aggaasaann	540
gatgggaatt	lnccttcccg	gccnntcccc	tcttccctta	caagccccc	nnctactctc	600
lccctctntt	ntcctgcnnc	acttttnacc	ccnnnatttc	ccttnattga	tccgannctn	660

ganattccac tnngeectnc ontenateng naanacnaaa nactntctna cccnggggat 720
 gggnnectcg ntcatctct cttttctnc accnccnntt ctttgccct cctingatec
 780 tcccaacntc gntggccntn ccccccnnn kcccttnecc
 820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27
 tctgggtgat ggcctcttcc tcttcaggga cctctgactg ctctgggcca aagaatctct 60
 tgtttcttct ccgagcccca ggcagcgggtg attcagccct gcccaacctg attctgatga 120
 ctgoggatgc tgtgacggac ccaaggggca aatagggtcc cagggtccag ggaggggctc 180
 ctgctgagca ctccggcccc tcacctgccc cagccctgccc catgagctct gggctgggtc 240
 tccgcttcca gggttctgct ctccacngca ngccancaa tggcgtctgg ccacactggt 300
 ttcttctg ccctccctg gctctganc tctgtcttcc tgtctgtgc angcnccttg 360
 gatctcagtt tccctcncct anngactct gttctgann tcttcantta actntgantt 420
 tatnaccnan tggctgtnc tgtcnnact taatgggccc gaccggctaa tccctccctc 480
 nctcccttcc anttonnnna accngcttnc onctctctcc ccntancccg cccngggcnc 540
 ctcccttggc ctncaccang gcccnnaccg cccnlnncctn ggggggcnng gtnnctnnc 600
 ctgntnnccc cncctcncnn tccctcgccc cnnccnccn ngccannctc nngtcccn 660
 tnnctcttcn ngctctcgnaa ngctcncntn tnnnnngnc ngtnnnlnc tccctctcnc 720
 cnnnlgnang lanttnnnnc ncngncccc nnnncnnnn nggnntnnn tctnncngc 780
 cccnnccccc ngnattcagg cctccnntct ccggcnc 818

<210> 28
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 28
 aggaagggcg gagggatatt gtangggatt gagggatagg agnetaangg gggaggtgtg 60
 tcccaacatg anggtgnngt tctcttttga angaggggtg ngtttttann ccnggtgggt 120
 gattnaaccc cattgtatgg agnnaaagg ttttagggat ttttcggctc ttatcagtat 180
 ntanattcct gtnaatcgga aatnatntt tcnnccggaa aatnttgcct ccatccgnaa 240
 attnctccc ggtagtgcat nctngggggn cngccangtt tccaggtct ctanaatcgt 300
 actaaagntt naagtgggan tncsaatgaa aacctnncac agagnatccn taccogactg 360
 tnnntnctc tcccccctng actctgcnng agcccaatac ccnngngnat gtccccngn 420
 nnnccgnnc tgaaannnnn tcnnggctnn gancatcang ggtcttcgca tcaaaagcnn 480
 cgttttncat naaggaactt tngcctcctc caacctctng cctcnncca ttingccgtc 540
 nggttncct acgctnnctg cncctnnctn ganattttnc ccgctnggg naancctcct 600
 gnaatgggtg gggcttntc ttttnaccnn gnggtntact aatcnnctnc acgctnctc 660
 tctncccc ccccttttt caatccanc ggcnaatggg gtctcccnnc ogangggggg 720
 nnnccannnc c 731

<210> 29
 <211> 822
 <212> DNA
 <213> Homo sapien

<220>

<221> misc feature
 <222> (1)...(822)
 <223> n = A,T,C or G

<400> 29
 actagtccag tgtggtggaa ttccattgtg ttggggmncn ttctatgant antntttagat 60
 cgtccanacc tcacancctc ccnaccnangc ctataangea nannaataga nctgtncnnt 120
 atntntacnc tcatannoct cunnaccacac tccctcttaa cccntactgt gcctatnpen 180
 tnnctantct ntgcgcctn cnanccacen gtgygcenac cncnngnatt ctenatctcc 240
 tcnccatntn gcctananta ngtnccatcc clalacctac nccaatgctc nnnctaanen 300
 tccatnanlt anntlancta ccactgacnt ngactttenc atnancctct aettlgaatc 360
 tactctgact cccacngcet annnattagc ancnlcccc naenatntct caacccaatc 420
 ntcaaccacc tatctenctg ttcnccascc nttnccctcg atccocnnac aacccccctc 480
 ccaatatccc nccacctgac nccctaccen ccccatccc gcaagccnen ggnatcttan 540
 cccctgggat cccnatngga naaaaaaac cccnaactctc tancnennat ctccctaana 600
 aatnctctn naatttactn ncanntccat caanccacn tgaacnnaa cccctgtttt 660
 tanatccctt ctttcgaaa cncacccttt annncccaac ctttngggcc ccccnctnc 720
 ccaatgaag gncnccaat cnangaaag nccntgaaa ancnaggcna anannntccg 780
 canatccat cccctanttn ggggnccctt nccnngggcc cc 822

<210> 30
 <211> 787
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(787)
 <223> n = A,T,C or G

<400> 30
 cggccgcctg ctctggcaca tgccctctga atggcatcaa aagtgatgga ctgcccattg 60
 cttagagaaga ccttctctcc tactgtcatt atggagccct gcagactgag ggtccccctt 120
 gtctgcagga tttgatgtct gaagtctgtg agtgtggott ggagctcctc atctacatna 180
 gctggaaagcc ctggaggggc tctctcgcca gcctccccct tctctccacg ctctccangg 240
 acaccagggg ctccaggcag cccattatto ccagnangac atggtgttct tccacgcgga 300
 cccatggggc ctgnaaggcc aggtctctct ttgacacccat ctctcccgtc ctgctggca 360
 ggccgtggga tccactantt ctanaacggg cgcacccncc gtgggagctc cagcttttgt 420
 tccnttaant gaaggttaat tgcncgcttg gogtaatcat nggtcanaac tntttctctg 480
 gtgaaattgt tnttccctc ncnattccnc ncnacatacn aacccgggan cataaagtgt 540
 taagcccttg ggtngccctn nngaatnaac tnaactcaat taattgcgtt ggtcctggc 600
 ccgcttttun ttcnnggaaa ctgtctctcc ctgcttntnt ctgctggcca ccccccggg 660
 aaaaagcglc lgcnttttng qgggtcctt ccncttccc cctcnctaan cctnccgct 720
 ccgctgttnc nqgtngcggg gaangggnat nnnclccnc naagggggng agnnngntat 780
 ccccaa 787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 31
 tttttttttt tttttttggc gatgctactg ttttaattgca ggaggtgggg gtgtgtgtac 60
 catgtaccag ggtatttaga agcaagaagg aaggagggag ggcagagcgc cctgctgagc 120
 aacaaaggac lccctgcagc ttctctgtct gtctcttggc gcaggcacat ggggagccct 180
 cccgcagggt ggggggccac agtcuagggg tgggagcact acannggggt ggaagtgggtg 240
 qtgctgtgln cnaatggcct gncanantc cctccgaltc ttgacacctg gatttcaaca 300

ggggaccttc	tgttctccca	nggnaacttc	ntnnatcton	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagcaca	ggtgtccnat	ttinggetgg	acttgggtaca	420
tatggttccg	gcccacctct	cccntcnaaa	aagtaattca	ccccccccc	ccntctnttg	480
cctgggccc	taantaccca	cacccgaact	canttantta	ttcatcting	gntgggcttg	540
ntnatcnccn	cctgaangcg	ccaagttgaa	aggccacgcc	gtcccccttc	cccatagnan	600
nttttntnt	canctaattg	ccccccnggc	aacnatocaa	ttccccccc	tggggggccc	660
agcccanggc	ccccgnetcg	ggnnnccngn	cncgnantcc	ccaggntctc	ccantcngnc	720
ccnnngcncc	ccccgacgca	gaacanaagg	ntngagccnc	cgcaunnnnn	nggtanncac	780
ctcgccccc	ccnnccgng					799

<210> 32
 <211> 789
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (789)
 <223> n = A, T, C or G

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttncnag	ggcagggtta	ttgacaacct	cncgggacac	aancaggctg	gggacaggac	120
ggcaacaggc	tcggggcgcg	ggggcgggcg	ccctacctgc	ggtaccaa	ntgcagctc	180
cgtcccgct	tgatnttct	ctgcagctgc	aggatgcent	aaaacagggc	ctcgccntn	240
ggtgggcaac	ctgggatttn	aatttccaag	ggcacaatgc	ggtcgcancc	cctcaccacc	300
nattaggaat	agtgtnttca	ccnccncccg	ttggcncact	ccccntggaa	accacttntc	360
gcggtccgg	catctggtct	taaaccttgc	aaacnctggg	gcctctcttt	tgtttantnt	420
ncngccaca	atcatnactc	agactggcnc	gggttggccc	caaaaaancc	ccccaaaaac	480
ggncatgtc	ttnnccgggt	tgctgcnatn	tncaaccctt	cccgggcnca	ncaggncaac	540
ccaaaagttc	ttngggcccn	caaaaaanct	ccggggggnc	ccagtttcaa	caaagtcate	600
cccnl.lggnc	cccaaatcct	ccccccgntt	ncgtgggtttg	ggaacccacg	cctctnnctt	660
tggnnngcra	gntggntccc	ccttcggggc	ccgggtgggc	ccnnctctaa	ngaaaaancc	720
ntcctnnnca	ccatcccccc	nngnnacgnc	tancaangna	tccttttttt	tanaaacggg	780
ccccccnag						799

<210> 33
 <211> 793
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (793)
 <223> n = A, T, C or G

gacagacact	gttgggtggg	ggagcaccct	tctataccgc	ttacaggaca	gcagatgggg	60
aattcalggc	tgttgagaca	atanaacccc	agttctacga	gctgctgac	aaaggacttg	120
gactaaagtc	tgatgaactt	cccaatcaga	tgagratgga	tgattggcca	gaaatgaana	180
agaagtttgc	agatgtattt	gcasaagaaga	cgaaggcaga	gtggtgtcaa	atctttgacg	240
gcacagatgc	ctgtgtgact	ccggttctga	cttttgagga	ggttgttcat	catgatcaca	300
scaangaacg	gggtctggtt	atcaccantg	aggagcagga	cgtgagcccc	cgccctgcac	360
ctctgctgtt	aaacaccccc	gccatccctt	ctttcaaaaag	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggage	tccagctttt	gttcccttta	gtgaggggta	attgcgcgct	480
tggcgtaatc	atggtcatan	ctgtttccctg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	anccggaagc	atnaaatttt	aaagcctggg	ggtngcctaa	tgantgaact	600
nactcacatt	aattggcttt	gcgctcaactg	cccggtttcc	agtcgggaaa	acctgtcctt	660
gccagctgcc	nttaatgaat	cnggccaccc	cccggggaaa	aggcngtttg	cttnttgggg	720
cgcnettccc	gctttctcgc	ttcctgaant	ccttcccccc	ggtctttcgg	cttgcggcna	780
acggtatcna	cct					793

<210> 34
 <211> 756
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (756)
 <223> n = A,T,C or G

```

<400> 34
gccgggaccg gcatgtacga gcaactcaag ggcgagtggg accgtaaaag ccccaatctt      60
ancaagtggg gggaanagct gggtcgactc aagctagttc ttctggagct caacttcttg      120
ccaaccacag ggaccaagct gaccaaacag cagctaattc tggcccggtg catactggag      180
atcgggggcc aatggagcat cctacgcaan gacatccctt ccttcgagcg ctacatggcc      240
cagctcaaat gctactactt tgattacaan gagcagotcc ccgagtcagc ctatatgcac      300
cagctcttgg gectcaacct cctcttcttg ctgtcccaga accgggtggc tgantnccac      360
acgganttgg anoggctgcc tgcccaanga catacanacc aatgtctaca tcnaccacca      420
gtgtcctggg gcaatactga tgganggcag ctacnccaaa gtnttcttgg conagggtaa      480
catcccccgc cgagagctac acctcttcca ttgacatcct gctcgacact atcagggatg      540
aaaatcgscg ggttgctcca gaaaggutnc aanaanatcc ttttctctga aggcctcccg      600
atnctctagt nctagatcg gcccgccttc ggggtgganc ctccaccctt tegttnccct      660
ttactgaggg tlnattgccg ccttggcggt tctcatgggc acnccngttn cctgtgttga      720
aatnltaac ccccccaat tccacgcena ccttng

```

<210> 35
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (834)
 <223> n = A,T,C or G

```

<400> 35
ggggatctct anactnacct gnatgcatgg ttgtcggtgt ggtcgctgtc gatgaanatg      60
aacaggctct tgccttqaa getctcgggt gctgtnttta agttgctcag tctgccgtca      120
tagtcagaca cnetuttggg caaaaaacan caggatntga gtcttgattt caactccaat      180
aatctctongg gotgtctgcl cggltgaactc gatgaanang qqcagctqgt tgtgtntgat      240
aaantccanc angttctctt tgggtgaactc ccttccaaag ttgttccggc cltcatcaaa      300
cttctnnaan angannancc canctttgtc gagctgggat lgganaaca cgtcactgtt      360
ggaaactgat cccaaatggg atgtcatcca tgcctctgcn tgcctgcaaa aaacttgcct      420
ggcncaaate cgaactcccn tcttgaaag aagccnatca cccccccctc cctggactcc      480
nncaangact ctncgcctnc cccntccnng cagggttggg ggcannccgg gcccttgcgc      540
ttcttcagcc agttcacnat ntcatcagc cctctgcca gctgtntat tcttggggg      600
ggaanccgtc tctcccttcc tgaannaact ttgaccgtng gaatagccgc gcntcncct      660
acntnctggg ccgggttcaa antccctccn ttgcnntcn cctcgggcca ttctggattt      720
nccnaacttt ttcttccc cncnccnccg ngtttgntt tttcatnggg ccccaactct      780
getnttggcc antccctggg gggcnntan cncnccntnt ggtccntng ggc      834

```

<210> 36
 <211> 814
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (814)
 <223> n = A,T,C or G

<400> 36

cggnccgcttt	ccngccgcgc	cccgtttcca	tgacnaagge	tccecttcang	tcaaatacnn	60
cctagnaaac	attaatgggt	tgtctacta	atacatcata	cnacccagta	agcctgccca	120
naacgccaac	tcaggccatt	cctaccaaag	gaagaaagge	tgggtctctcc	acccccigta	180
ggaaaggcc	gccttgtaag	acaucaaat	ncggctgaat	ctnaagtcct	gtgtttcact	240
aatggcaana	aaazataaac	aanagglttt	gtlctcatgg	ctgccaccg	cagcctggca	300
ctaaaaacnc	ccagcgutca	cttctgcttg	ganseatat	ctttgctctt	ttggacatca	360
ggcttgctgg	talcaactgcc	acnttlccac	ccagctgggc	nccttcccc	catntttgtc	420
enlqanctgg	uaggccctgaa	nottagtctc	caaaagtctc	ngccccacag	accggccacc	480
aggggangtc	ntttncagtg	gctclgccc	enantaccn	tctcatcnnt	gaataaaaag	540
gcccclgaac	ganatgcttc	cancancctt	taagaccat	aatcctngaa	ccatgggtgcc	600
cttcgggtct	gatecnaaag	gaatgttctt	gggtccant	ccctcctttg	tttcttaagt	660
tgtnttggac	cctgtctngn	atnaccnaan	tganaatccc	ngaagcaccc	tncccttgyc	720
atttgantt	cntaaattct	ctgccctacn	ntgaaagca	cnattccctn	ggcnccnaan	780
ggngaactca	agaaggctctn	ngaaaaacca	cnctn			814

<210> 37

<211> 760

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(760)

<223> n = A, T, C or G

<400> 37

gcattgtgt	ctlccclcaaa	gttgttcttg	tlgccal:aac	aaccaccata	ggtaaaagcgg	60
gcgcagtgt	cgttgaaagg	gttgtagtac	cagcgccggga	tgtctctctt	gcagagtcct	120
gtgtctggca	ggccccccga	atgccclltg	tactggggga	aatggatgag	ctggagctcg	180
lcnaancac	tcgtgtattt	ttcagangca	gcctcctccg	aagctcccg	gcagttgggg	240
gtgtcgtcc	actccactaa	actgtcgatn	cancagccca	ttgttcgagc	ggaaactgggt	300
gggtgacag	gtgccagaac	acactggatn	ggcctttcca	tggaagggcc	tgggggaaat	360
cnctnanc	caaaactgct	ctcaaaggcc	accttgcaca	ccccgacag	ctagaaatgc	420
actcttcttc	ccaaaggtag	ttgttcttgt	tgcccaagca	ncctccanca	aaccaaaanc	480
ttgcaaaatc	tgtctcgtgg	gggtcatnnn	taccanggtt	ggggaaanaa	acccggcngn	540
ganccnctt	gtttgaatgc	naaggnaata	atcctcctgt	cttgccttgg	tggaanagca	600
caattgaact	gttaacnttg	ggcggngtcc	cnctnggggt	gtctgaaact	aatcacctgc	660
actggaaaaa	ggtangtgcc	ttccttgaat	tcccaaat	ccctngntt	tggttntttt	720
ctctctncc	ctaaaaatog	ntttccccc	cnctangggc			760

<210> 38

<211> 724

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(724)

<223> n = A, T, C or G

<400> 38

tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttccnaaat	tgtccaaacc	cctcnnccaa	atnnccattt	ccgggggggg	gttccaaacc	120
caaatataat	ttgganttta	aattaaatnt	tnattinggg	aanzaanocaa	atgtnaagaa	180
aatttaacc	attatnaact	taaatnccn	gaaccctng	gnttccaaaa	atttttaacc	240
cttaaatccc	tcagaaattg	ntaanggaa	accaaattcn	cctaaggctn	tttgaaggtt	300
ngatttaaac	ccccctnant	cttttttacc	cnngnctnaa	ntatttngnt	tccgggtgtt	360
tcctnttaan	cntnggtaac	tcccgntaat	gaannnccct	aanccaatta	aaccgaattt	420
tttttgaatt	ggaaattccn	ngggaaattna	ccgggttttt	tcccttttgg	gggcacalncc	480
ccnctttcg	gggtttgggn	ntaggttgaa	tttttnnang	cccccccaaaa	cccccccaaaa	540
aaaaaactcc	caagnnltta	ctngaatntc	cccttccca	ggccttttgg	gaaggngggg	600
ttnttygggg	ccngggantt	cnllccccc	ttncncccc	cccccnnggt	aaanggttat	660

ngnntttggt ttttgggccc ctttannngac cttccggatn gaaattaaat ccccggnncg 720
gcog 724

<210> 39
<211> 751
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(751)
<223> n = A, T, C or G

<400> 39
tttttttttt tttttctttg ctcccattta atttttaltt tgaatttttt taatgctgca 60
ccccccata ttatlllcal ttgtttcttt tttttcattt tttttgtttg ctgctgctgt 120
tttttttttt tttactgaaa gtgagaggga actttttgtg ctttttttcc tttttctgta 180
ggccgcctta agttttctaa atttggacaa tctaaqcaag ctgaanggaa aagggggttt 240
cgcaaatca ctcgggggaa nggaaagggt gttttgttaa tcatgcccta tgggtgggtga 300
ttaactgctt gtacaattac ntttcacttt taattaattg tgctnaange ttttaattana 360
cttggggggt cctcccccac accaaccrcn ctgacaaaaa gtgccngccc tcaaatnatg 420
tcccgccmnt cnttgaacaa caccngcngaa ngttctcatt ntcccccncn caggtnaaaa 480
tgaagggtta ccatntttta cncacccctc acntggcnnn gcttgaatcc tcaaaaanon 540
cctcaaanon aatttctnng ccccggtcnc gentnngtcc cncccgggct cggggaantn 600
caccocnga annccntnnc naacnaaatt ccgaaaatat tcccnctcnc tcaattcccc 660
cnnaactnt cctcnncnan cncaattttc ttttntcac gaacnognnc cnaaaatgn 720
nnnnccctc cctngtccn naatcnccan c 751

<210> 40
<211> 753
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(753)
<223> n = A, T, C or G

<400> 40
gtggtatrrt ctgtaagatc aggtgttccr cctcgttagg tttagagqaa ccaccctcat 60
agatgaaaaa ccccccagac cagcagcaat gcaactgcca agcagccqag qlaggagggg 120
cgccctatgc acagctgggc ccttgagaca gcagggtctc gatqtraggc tcatgtcaa 180
tgggtctgaa gggcggtgtg taactgcgta ggggcacac gtccggggccc accagggaat 240
tctcaaagtt ccaggcaacn tegtgcgac acacccggag ccagggtgatn agcttggggt 300
cgttcataan cggcgtggcg tegtgcgtg gacttqqcag ggctccccgc aggaaggcna 360
ataaaagggt cggcccccga cgttcacnct cgcacttctc naanaccatg angttgggt 420
cnaaccacc acccnnccgg acctccclga nggaattccc aaatctcttc gntcttgggc 480
ttctnctgat gccctancgt gttgcccngh atgccaanca nccccaancc cgggggtcct 540
aaanccaccc cctccclntt tcatclgggt tnttntccc ggacnttgggt tectctcaag 600
ggancccata tctcnaccan tactcactnt nccccccent gnnaccanc cttctanngh 660
tcccccncgg acctclggcc cntcaaanah gcttncaana cctgggtctg cttccccccc 720
tncctatct gnaccccngh tttgtctcan tnt 753

<210> 41
<211> 341
<212> DNA
<213> Homo sapien

<400> 41
actatatcca tcacaacaga catgtttcat cccatagact tcttgacata gcttcaaatg 60
agtgaacca tcccttgattt atatacatat atgttctcag tattttggga gcttcccc 120
ttctttaaac ctgtgtcatt atgaacactg aaatacga tttgtgagga gttaaaaagt 180

tatagcttgt	ttaacgtagta	agtttttgaa	gtctacattc	aatccagaca	cttagttgag	240
tggttaactg	tgatttttaa	aaaatatcat	ttgagcaat	tctttcagag	gtattttcat	300
ttttactttt	tgattaattg	tgttttatct	attagggtag	t		341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 42		
acttaactgaa	tttagttctg	tgctcttctt
gtttcaataa	ttctaaataa	ataattttca
	gtgggttcac	a
		60
		101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 43			
acatctttgt	tacagtctaa	gatgtgttct	taaatcaca
tccagggtgg	tctcacactg	taattagagc	tattgaggag
tcagatgect	tgctaagtct	agagttctag	agttatgttt
cctcttgaga	ggtcagtaaa	gaggacttaa	tatttcatat
tggtacaga	acgagagtta	tcttggataa	ctcagagctg
tcgaa			agtaacctgc
			cgggggcccgc
			60
			120
			180
			240
			300
			305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (852)
 <223> n = A, T, C or G

<400> 44			
acataaatat	cagagaaaag	tagtctttga	aatatttaac
gattattttg	tggtgtttt	ggtttgtgtc	caaagtattg
ctctccafcc	tcgggcattc	ttcccaaatt	tatafacacg
ccagaatttc	tctttttag	taatatctca	tagctcggct
tgctgtttgt	cttcttttta	ccccatagct	gagccactgc
agacgccttc	agatcggtct	tcccatttta	ttaatcctgg
ggatgtgcgc	gatgaattcc	cataagttag	tccctctcgg
acttggcagg	ggggctttgc	tctcttttca	tatcaggtga
tggtggllgt	cactggagatc	tgagcccggc	agaaagtttt
tgctacccta	gttgggtgla	tctaaatagt	tctnqtcttt
gctcagtttg	ttcagctctg	acaatgacct	tggtgtgtgg
actggcgggt	ccacttcaga	tgctgcacgt	tgctgttagg
ccgcccgggt	gaactcctgc	aaactcctgc	tgcaagggtg
cntggaaagg	gatacaattg	gcattccagct	ggttggtgtc
cccacacctg	gt		caggaggtga
			tgagaccact
			60
			120
			180
			240
			300
			360
			420
			480
			540
			600
			660
			720
			780
			840
			852

<210> 45
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 45			
acaacagacc	cttgcctcgt	aacgacctca	tgctcatcaa
agtctgacac	catccggagc	atcagcattg	cttcgcagtg
gcctcgtttc	tggtctgggt	ctgctgggga	acggcagaat
			gcttaccgtg
			ctgcagtgccg
			60
			120
			180

tgaacgtgtc ggtggtgtct gaggaggtct gcagtaagct ctatgaccgc ctgt 234

<210> 46

<211> 590

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(590)

<223> n = A,T,C or G

<400> 46

acttttttatt	taaatgttta	taaggcagat	ctatgagaat	gatagaaaac	atggtgtgta	60
atttgatagc	aatatitttg	agattacaga	gttttagtaa	ttaccaatta	cacagttaa	120
aagaagataa	tatattccaa	gcanatacaa	aatatcta	gaagatcaa	ggcaggaaaa	180
tgantataac	taattgacaa	tggaataaca	attttaatgt	gaattgcaca	ttatccttta	240
aaagctttca	aaanaaanaa	ttattgcagt	ctanttaatt	caaacagtgt	taaattggtat	300
caggataaa	aactgaagg	canaaagaat	taattttcac	ttcatgtaac	ncacccanac	360
ttacaattgc	ttaaatgcan	ggaaaaagca	gtggaagtag	ggaagtantc	aaggtccttc	420
tggctctctaa	tctgccttac	tctttgggtg	tggctttgat	cctctggaga	cagctgccag	480
ggctcctgtt	atatccacaa	tcccagcagc	aagatgaagg	gatgaaaaag	gacacatgct	540
gccttccttt	gaggagactt	catctcactg	gccaacactc	agtcacatgt		590

<210> 47

<211> 774

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(774)

<223> n = A,T,C or G

<400> 47

acaagggggc	ataatgaagg	agtggggana	gatttttaag	aaggaaaaaa	aacgaggccc	60
tgaacagaat	tttctgna	aacggggott	caaaataatt	ttcttgggga	ggttcaagac	120
gttccactgc	ttgaaactta	aatggatgtg	ggacanaatt	ttctgtaatg	acctgaggg	180
cattacagac	gggaclclga	qaggaaggat	aaacagaaag	gggacaaagg	ctaataccaa	240
aacatcaagg	aaagggaagg	ggogtcatac	ctccagcct	acacagttct	ccagggtct	300
cctcactcct	ggaggacgac	aglqagga	caactgaca	lqlccccagg	ctcctgtgtg	360
ctggctcctg	gtcttcagcc	cccagctctg	gaagcaccac	ctctgtgat	cctgcgtggc	420
ccacactcct	tgaacacaca	tcccaggtt	atatctctgg	acclqgctga	acctctatt	480
cctacttccg	agatgccttg	ctccctgcag	cctgtcaaaa	tcccactcac	cclccaaaac	540
acggcatggg	aagcctttct	gacttgctctg	attactccag	catcllqaaa	caatccctga	600
ttcccactc	cttagaggca	agatagggtg	gttaagagta	gggctggacc	acttggagcc	660
aggctgctgg	cttcaaattn	tggctcattt	acgagctatg	ggaccttggg	caagtnatct	720
tcacttctat	gggcntcatt	ttgtttotacc	tgcaaaatgg	gggataataa	tagt	774

<210> 48

<211> 124

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(124)

<223> n = A,T,C or G

<400> 48

canaaattga	aattttalaa	aaaggcattt	ttctcttata	tcacaaaaat	gatataattt	60
ttgcaantat	anaaatgtgt	cataaattat	aatgttccct	aaltacagct	caacgcact	120

tggt

124

<210> 49
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{147}
 <223> n = A,T,C or G

<400> 49
 gccgatgcta ctattttatt gcaggaggta ggggtgtttt tattattctc tcaacagctt 60
 tgtggctaca ggtgggtgtct gactgcattt aaaaattttt taagggtgat tgcacaaatt 120
 ttaggggacc catatccaa qcantgt 147

<210> 50
 <211> 107
 <212> DNA
 <213> Homo sapien

<400> 50
 acattaaatt aataaaagga ctgttgggggt tctgctaaaa cacatggctt gatatatattgc 60
 atgggtttgag gttaggagga gttaggcata tgttttggga gaggggt 107

<210> 51
 <211> 204
 <212> DNA
 <213> Homo sapien

<400> 51
 gtccataggaa gtctaggga cacacgcttc tgggggtcacg gggcgcgacac acttgccagg 60
 cgggaaggaa aggcagagaa gtgacacccgt caggggggaaa tgacagaaag gaaatcagg 120
 gccctgcagg gtcagaaagg ggactcaggg ctccaccac agccctgccc canttggcca 180
 cctccctttt gggaccagca atgt 204

<210> 52
 <211> 491
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{491}
 <223> n = A,T,C or G

<400> 52
 acaaagatga catctatctt ataacaasaa tttgatagtt ttaaagggtta gtatttclga 60
 gggatatttc caaaagacta aagaagataac tcaggtaaaa agttagaaat gtataaaaca 120
 ccatcagaca ggttttttaa aaacaacata ttacaaaatt agacaatcat ccttaaaaaa 180
 aaaaacttct gtatcaattt cttttgttca aaatgactga ctttaantatt tttaaatatt 240
 tcaaaacac ttctcaaaa attttcaana tggtagcttt canatgtacc ctcaagtcaca 300
 atgttgtcca gataataaaa tctcgtgaga acttaaccac caccacaagc tttctggggc 360
 atgcaacagt gtcttttctt tcttttttct tttttttttt ttacaggcac agaaactcat 420
 caattttatt tggataacaa aggggtctcca aatttatatt aaaaataaat ccaagttaat 480
 atcactottg t 491

<210> 53
 <211> 484
 <212> DNA
 <213> Homo sapien

21

<220>
 <221> misc_feature
 <222> (1)...(484)
 <223> n = A,T,C or G

<400> 53
 acataattta gcagggctaa ttaccataag atgotattta ttaanaggtn tatgatctga 60
 gtattaacag ttgctgaagt ttggtatttt tatgcagcat tttcttcttg ctttgataac 120
 actacagaac cottaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct 180
 caatcaaatc totacataac actatagtaa ttaaaacgtt aaaaaaaggt gttgaaatct 240
 gcaactagtat anacogctcc tgtcaggata anaactgottt ggaacagaaa gggaaaaanc 300
 agctttgant tcttttgtgc tgatanggag aagggtgaa ttacctgtt gcctctcct 360
 aatgattggc aggtcnggta aatnccaaaa catattccaa ctcaacactt cttttccncc 420
 tancttgant ctgtgtatto caggancagg cggatggaat gggccagccc ncggatgttc 480
 cant 484

<210> 54
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 54
 actaaacctc gtgcttgta actccataca gaasacgggtg ccattccctga acacgggtgg 60
 ccaactgggtg tactgctgac aaccgcaaca acaaaaacac aaatccttgg cactggctag 120
 tctatgtcct ctcaagtgc tttttgtttg t 151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctcgggtg qttccgggg cccccacgg tccccagAAC ggacactttc 60
 gccctcncgt ggtatcncga gccaaaglcg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggccgatgtg cgttggttat atacaaatat gtcattttat gtaagggact tgagtatact 60
 tggatttttg gtatctgtgg gttgggggga cgggtccagga acaataacc catggatacc 120
 aagggaacac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggcgc 60
 gactgggagc tgagcccttc cttttgcgcc tgcctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncat gcagggt 147

<210> 58

<211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)..(198)
 <223> n = A,T,C or G

<400> 58
 acagggatct aggtttnaag ttattgtnat tgtaaatatc attgaatttt ctgtatactc 60
 tgattacata caittatcct ttaaaaaaga tgtaaatcctt aatttttatg coactotatta 120
 atttaccnat gaggttacott gtaaatgaga agtcatgata gcautgaatt ttaactagtt 180
 ttgacttcta agtttggt 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59
 acaacaaatg ggttggtgagg aagtottatc agcaaaactg gtgatggcta ctgaaaagat 60
 coattgaaa ttatcattaa tgatttttaa tgacaagtta tcaaaaactc actcaatttt 120
 caactgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa 180
 tacagtcaat aatgacaaa gccagggcct acaggtggtt tccagacttt ccagaccag 240
 cagaaggat ctattttatc acatggatct ccgtctgtgc tcaaaatacc taatgatatt 300
 ttctgtcttt attggacttc tttgaagagt 330

<210> 60
 <211> 175
 <212> DNA
 <213> Homo sapien

<400> 60
 accgtgggtg ccttctacat tctgacggc tcttcacca acatctgggt ctacttgggc 60
 gtctggggt ccttctctt catctcatc cagctgggtc tgcctatcga ctttgcgcac 120
 tcttggaacc agcgtgggt gggcaaggcc gaggagtgc attcccggtc ctggt 175

<210> 61
 <211> 154
 <212> DNA
 <213> Homo sapien

<400> 61
 accnacttt tctcctgtg agcagtcctg acttctcact gctacatgat gagggtgagt 60
 ggttggtgct cttccacagt atctctcctt ttcggatct gctgagcgg acagcagtgc 120
 tggactgcac agccccgggg ctccacattg ctgt 154

<210> 62
 <211> 30
 <212> DNA
 <213> Homo sapien

<400> 62
 cgctcgagcc ctatagttag tctgattaga 30

<210> 63
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 63

acaagtcaatt tcagcaccoct ttgctcttca aaactgacca tcttttatat ttaatgcctc 60
ctgtatgaal aaaaatggtt atgtcaagt 89

<210> 64
<211> 97
<212> DNA
<213> Homo sapien

<400> 64
accggagtaa ctgagtcggg acgctgaatc lgaatccacc aataaataaa ggttctgag 60
aatcagtga tccaggattg gtccttggat ctgggt 97

<210> 65
<211> 377
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(377)
<223> n = A,T,C or G

<400> 65
acaacaenaa ntcccttctt taggcactg atggaacct ggaacccct ttgatggca 60
gcataggcgtc ctaggccttg acacagcggc tggggtttgg gctntccaa accgcacacc 120
ccaaaccttg tctaccaca nttctggcta tgggctgtct ctgcaactga acatcagggt 180
tcggtcataa natgaatcc caanqgggc agaggtcagt agaggaagct caatgagaaa 240
ggtgctgttt gctcagcccg aaaaacgclq cutggcattc gcgctgaac tatgaacccg 300
tgggggtgaa ctaccccnan gaggaatcat gctggguga tgaanggtg ccuacaggag 360
gggaggagg agcatgt 377

<210> 66
<211> 305
<212> DNA
<213> Homo sapien

<400> 66
agccttctcc ctuagaattc aggggaagaga ctgtgcctg ccttccctcg ttgttgctg 60
agaaacctg tgcccttcc caccatctcc accctugctc catctttgaa ctcaaacacg 120
aggaactaac tgaacclqg tctctccccc agtccccagt tcacctcca tccctcact 180
tctccactc taaggatct caacactgcu cagcacagg gacctgaatt tatgtggtt 240
ttatatatt ltaataaga kgcactttat gtcctttttt aataaagctt gaagaattac 300
tggtt 305

<210> 67
<211> 385
<212> DNA
<213> Homo sapien

<400> 67
actacacaca ctccacttgc ccttgtgaga cactttgtcc cagcacttta ggaatgctga 60
ggtcggacca atgcacatctc atgtgcaaga ttgcccagca gacatcaggt ctgagagttc 120
cccttttaaa aaaggggact tgcctaaaaa agaagtctag ccacgattgt gtagagcagc 180
tgtgtgtgc tggagattca cttttgagag agttctctc tgagacctga tctttagagg 240
ctgggcagtc ttgcacatga gatgggctg gtctgatctc agcaactcctt agtctgcttg 300
cctctcccag ggcaccagcc tggccacacc tgcctacagg gcactctcag atgcccatac 360
catagtttct ctgtatgtg accgt 385

<210> 68
<211> 73
<212> DNA
<213> Homo sapien

<400> 68
acttaccag atatattttt accccagatg gggatattct ttgtaaaaa tgaataaaa 60
gtttttttta lgg 73

<210> 69
<211> 536
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(536)
<223> n = A,T,C or G

<400> 69
actagtccag tgtggtggaa ttccattgtg ttgggggctc tcacctcct ctctgcagc 60
tccagctttg tgcctgct ctgaggagac catggcccag catctgagta cctgctgct 120
cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180
cccgggtggc atctataacg cagacctcaa tgatgagtg gtacagcgtg ccttcactt 240
cgccatcagc gagtataaca aggccacca agatgactac tacagacgtc cgtgogggt 300
actaagagcc aggcaacaga ccgttggggg ggtgaattac ttcttcgacg tagaggtggg 360
ccgaaccata tgtaccaagt cccagcccaa ctggacacc tgtgccttuc atgaacagcc 420
agaactgcag aagaaccagt tgtgctcttt cagatctctc gaagttccct gggtgagaca 480
gaangtccct gggtgaantc caggtgtcaa gaaalccctn ggatctggtt ccagac 536

<210> 70
<211> 477
<212> DNA
<213> Homo sapien

<400> 70
atgacccta acaggggggc tctagccct cctaataacc tcgggcttag ccattgtatt 60
tcacttccac tcataacgc tctcatact aggcctaata accaacacac taaccataa 120
ccaatgatgg cgcgatgtaa cagagaaaag cacataccaa ggccaccaca caccacctgt 180
ccaaaaaggc cttagatacg ggataatcct atttattacc tcagaagttt tttctctgc 240
agggattttt ctgagccttt taccactcca gcttagcccc taacccccaa ctaggaggggc 300
actggccccc aacaggcctc acccgcgtaa atcccttaga agtcccactc ctaaaacact 360
ccgtattact cgcatacaga gtatcaalca cctgagctca ccatagtcta atagaaaca 420
aucgnaacca aattattcaa agcactgctt attacaattt lactgggtct ctatttt 477

<210> 71
<211> 533
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(533)
<223> n = A,T,C or G

<400> 71
agagctatag gtacagtgtg atctcagctt tgcaaacaca tttctacat agatagtact 60
aggtattaat agatattgtaa agaaagaaat cacaccatta ataatggtaa gattggttta 120
tgtgatttta gtggtatttt tggcaccctt atatattgtt tccaaacttt cagcagtgat 180
attatttcca taacttaaaa agtgogtttg aaaaagaaaa totccagcaa gcattctatt 240
taaataaagg tttgtcatct llaaaaatac agcaatatgt gactttttta aaaaagctg 300
aaatagggtg gccctacta ataatlatta gaaalacatt taaaacacac gactacctca 360
agtcagtttg ccttgaaaaa talcaaatat aactcttaga gaaatgtaca laaaagaaatg 420
cttcgtattt ttggaqlanq aggttccclc ctcaalttky latllttaaa aagtaaatgg 480
taaaaaaaaa aalttcaaac agtatataag gctgtaaaaa qaagaattct gcc 533

<210> 72

<211> 511
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 72
 tattacggaa aaacacacaa cataattcaa ctancaaaga anactgcttc agggcgtgta 60
 aatgaaagg ctccaggca gttatctgat taagaaacac taaggaggga caaggcctaa 120
 aagccgcagg atgtctacac tatancaggc gctatctggg ttggctggag gagctgtgga 180
 aascctggan agattggtgc tgganctgc cgtggctatt cctcattgtt etiacanagt 240
 gaggttctct gtgtgccac tggtttgaaa accgttctnc aataatgata gaatagtaca 300
 cacatgagaa ctgaaatggc ccaaacccag aaagaaagcc caactagatc ctgagaaac 360
 gttctaggga acaataaccg atgaagaaa gatggcctcc ttgtgcccc gtctgttatg 420
 attctctcc attgcagca naaacccgtt ctctaaaga aacncagggtg atgatggcna 480
 aataacccc cctctgag naccnggag a 511

<210> 73
 <211> 499
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 73
 cagtgcagc actggtgcc gtaccagtac caataacagt gccagtcca gtgccagcac 60
 cagtgtggc ttacgtgctg gtgccagcct gaccgccact ctacacattg ggctcttcgc 120
 tggccttggg ggagctggg ccagcacacag tggcagctct ggtgctgtg gtttctcta 180
 caagtggat tttagatatt gtaaatcctg ccagtccttc tcttcaagcc aggggtgcac 240
 ctgagaaacc tactcaacac agcactctag ccagccacta tcaatcaatt gaagtgcac 300
 ctctgcatta aatctatttg ccatttctga aaaaaaaa aaaaaaaggg cggcgcctcg 360
 antctagagg gccgtttta acccgctgat cagcctcgac tgtgcctct anttgcagc 420
 catctgtgt ttgccctcc ccgntgcct tcttgaccc tggaaagtgc cactccact 480
 gtctttct aantaaat 499

<210> 74
 <211> 537
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 74
 ttctcatagga gaacacactg aggagatact tgaagaattt ggattcagcc gcgaagagat 60
 ttatcagctt auctcagata aaatcattga aagtaataag gtaaaagcta gtctctaact 120
 tccaggccca cggctcaagt gaatttgaat actgcattta cagtgtagag taacacataa 180
 cattgtatgc atggaaacat ggaggaaacag tattacagt tctaccact ctaatcaaga 240
 aaagaattac aactctgt tolacagtga tgattgaatt ctaaaaatgg taatcattag 300
 ggcttttgat ttataaact ttgggtactt atactaaatt atggctagt tactgccttc 360
 cagtttgcti galataktg ttgacttaa gattttgac ttatatattg aatgggttct 420
 actgaaan gaatgatata ttcttgaaga catcgalata cattcattta cactcttgat 480
 tctacactgt agaaatgaa ggaactgcc caacttgtat ggtgataaaa gtccct 537

<210> 75
 <211> 467
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(467)
 <223> n = A, T, C or G

<400> 75
 caaanacaat tgttcaaaag atgcaaatga tacactactg ctgcagctca caaacaccto 60
 tgcataattac acgtacctcc tctgtctcct caagtagtgt ggtctatitt gccatcatca 120
 cctgctgtct gcttagaaga acggctttct gctgcaangg agagaaatca taacagacgg 180
 tggcacaagg aggcacatctt ttctcatcog gttattgtcc ctagaagcgt ctcttgagga 240
 tctagttggg ctttctttct gggtttgggc catttcantt ctcatgtgtg tactattcta 300
 tcattattgt ataacggttt tcaaacnngt gggcacncag agaacctcac tctgtaataa 360
 caatgaggaa tagccacggt gatctccagc accaaatctc tccatgttnt tccagagctc 420
 ctccagccaa cccaaatagc cgtctctatn gtgtagaaca tccctgn 467

<210> 76
 <211> 400
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(400)
 <223> n = A, T, C or G

<400> 76
 aagctgacag catteggggc gagatgtctc gctcogtggc cttagctgtg ctgcgctac 60
 tctctctttc tggcctggag gctatccagc gtaactccaa gattcaggtt tactcacgto 120
 atccagcaga gaattggaaag tcaaatcttc tgaattgcta tgtgtctggg ttctatccat 180
 ccgacattga agttgactta ctgaagaatg gagagagaat tgaaaaagtg gagcattcag 240
 acctgtcttt cagcaaggac tggctctttc atctcttgta ctacactgaa ttccccccta 300
 ctgaaaaaga tgagtatgac tgcctgtgtg accatgtgac ttgtgtcacg cccaaatctg 360
 tttagtgagg taanacatg taagcagcan cctgggaggt 400

<210> 77
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 77
 ctggagtgcc ttggtgtttc aagccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc cggcggggga tgcgaggctc ggagcacctt tgcccggtg tgattgctgc 120
 caggcaactgt tcatctcagc tttctgttcc ctttgtctcc ggcaagcgt tctgtgaaa 180
 gticatatct ggagcctgat gtcttaacga ataaaggtcc catgtctcac ccgaaaaaaa 240
 aaaaaaaa 248

<210> 78
 <211> 201
 <212> DNA
 <213> Homo sapien

<400> 78
 actagtcacg tgtggtggaa ttccattgtg ttgggccccg cacaatgggt acctttacaa 60
 tcaccagac cccgccttgc ccgtgccccg cgtgtctggt aacgacagta tgatgcttac 120
 tctgtacttc ggaaactatc ttatgtaat taatgtatgc ttctttgttt ataatgcct 180
 gatttcaaaa aaaaaaaaaa a 201

<210> 79
 <211> 552
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{552}
 <223> n = A,T,C or G

<400> 79
 tccttttgtt aggtttttga gacaacccta gacctaaact gtgtcacaga cttctlgaatg 60
 tttaggcagt gctagtaatt tectcgtaat gattctgtta ttacttttct attctttalt 120
 cctcttttct ctgaagatta atgaagttga aaattgaggt ggataaatac aaaaaggtag 180
 tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcassaatt 240
 atgcaagtta gtaattactc agggtttaact aaattacttt aatatgctgt tgaacctact 300
 ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga 360
 taatatctta tgttctaaaa gttagggctat acataaanta tnaagaaata tgggaatttta 420
 ttcccaggaa tatgggggtc atttatgaat antaccggg anagaagttt tgantnaaac 480
 cngtttttgt taatacgtta atatgtcctn aatnaacaag gcntgactta tttccaaaaa 540
 aaaaaaaaaa aa 552

<210> 80
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{476}
 <223> n = A,T,C or G

<400> 80
 acagggattt gagatgctaa ggccccagag atcgtttgat ccacccctct tattttcaga 60
 ggggaaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct 120
 cacacagact ccgagtagc tgggactaca ggacacagc cactgaagca ggccctgttt 180
 gcaattcaag ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtcacta 240
 aggttaaaat tccccaccca gaaaaggcaa cttagatcaa atcttagagt actttcctac 300
 cttttctaat cctcttcuag cctcactttg agtctctctt gggggttgat aggaantntc 360
 tcttggttll ctcaataaaa tctctatccc tctcatgttt aatttggtac gentaanaat 420
 gctgaaaaaa ttaaaatgtt ctgglttcnc tttaaaaaaa aaaaaaaaaa aaaaaa 476

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{232}
 <223> n = A,T,C or G

<400> 81
 tttttttttg talgcctctn ctglcgggtt attgttgttg ccacccctga ggagcccagt 60
 ttctttctga tttttcttll ctgaggggac ttcttggttc tgccctcca ttcccagcct 120
 ctctcccca tcttgcaatt ttgctagggg lggagggcgt ttcttggttag cccctcagag 180
 acloagtcag cggggaataag tcttaggggt gggggtgtgt gcaagccgga ct 232

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 82
 aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtggcag cactgggtgcc 60
 agtagacgta ccaataacat gccagtgccg gtgccagcac cagtgggtggc ttcaagtgcg 120
 gtgccagcct gaccgccact ctcacatttg ggctcttcgc tggccttggg ggagctggg 180
 ccagcaccag tggcagctct ggtgccgtgt gtctctccta caagtggat tttagatatt 240
 gttaatcctg ccagtctttc tcttcaagcc aggggtgcac ctccagaaacc tactcaacac 300
 agcactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360
 ccatttcaaa aaaaaaaaaa aaa 383

<210> 83
 <211> 494
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(494)
 <223> n = A,T,C or G

<400> 83
 accgaattgg gaccgctggc ttataagcga tcatgtcctc cagtattacc tcaacgagca 60
 gggagatcga gtctatacgc tgaagaaatt tgaccgatg ggacaacaga cctgctcagc 120
 ccacctgctt cgggttctcc cagatgacaa atactctcga caccgaaaca ccatcaagaa 180
 acgcttcaag gtgctcatga ccagcgaacc ggcgcctgtc ctctgagggt ccttaaaactg 240
 atgtcttttc tgcacactgt taccctcggg agactccgta accaaactct tgggactgtg 300
 agccctgatg ccttttttgc agccatactc lctggctctc aglctctcgt ggagattgat 360
 tatgcttggt tgaggcaatc atgggtggcat cccccatnaa ggggaacacat ttgactttt 420
 tttcncatat tttcaattac naccagaata nltcaqaata aalgaattga aaaaclclta 480
 aaaaaaaaaa aaaa 494

<210> 84
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A,T,C or G

<400> 84
 gctggtagcc tatgqcgtag ccaggagagg qctcttgagg caccgggacag lgaactccca 60
 agtatcctgc qccgcgtctt ctcccgltcc tactgcaga tcttcgggca gattccccag 120
 gaggacatgg acgtggccct catggagcac agcaactgct cglcggagcc cggcltctgg 180
 gcaacacctc clggggccca ggcgggcacc tgcgtctcnc agtatgcnaa ctggclgggtg 240
 gtgctgclcc tgcgtcatct cctgctcgtg gccaacatcc tgcgtggtcac ltcgtcattg 300
 ccattgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
 agcqltnocg cctcatccgg 380

<210> 85
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> {1}...{481}

<223> n = A, T, C or G

<400> 85

gagtagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcatacogc	60
tnccatcgtc	atactgtagg	tttgcaccca	cctcctgcac	cttggggcgg	ctaatatcca	120
ggaaactctc	aatcaagtc	cogtcnatna	aaactgttgc	tggttctgtc	ttccgctogg	180
tgtgaaagga	tctccagaag	gagtgcctga	tottccccc	acttttgatg	actttattga	240
gtcgattctg	catgtccagc	aggaggttgt	accagctctc	tgacagttag	gtcaccagcc	300
ctatcatgcc	nttgaacgtg	ccgaagaaca	ccgagccttg	tgtggggggg	gnagtctcac	360
ccagattctg	cattaccaga	nagccgtggc	aaaaganatt	gacaactcgc	ccaggnggaa	420
aaagaacacc	tcctggaagt	gctngccgct	cctcgteent	tgggtggngc	gcntnccett	480
t						481

<210> 86

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{472}

<223> n = A, T, C or G

<400> 86

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgctg	agaattcatt	60
acttggaaaa	gcaacttnaa	gocctggacac	tggtattaaa	attcacaata	tgcaacactt	120
taaacagtgt	gtcaatctgc	tcoccttaact	tgfcacacac	agtctgggaa	taagggtatg	180
ccctattcac	acctgttaaa	agggcgctaa	gcatttttga	ttcaacatct	ttttttttga	240
cacaagtcgg	aaagaaagcaa	aagtaaacag	ttnttaactt	gttggccaat	tcactttctt	300
catgggacag	agccatttga	ttiaaaaaagc	aaattgcata	atattgagct	ttgggagctg	360
atatnlgagc	ggaaganaag	cctttctact	lcacacagaca	caactccttt	catattggga	420
tgtnnccnaa	agllatgtct	cctacagatg	ggatgccttt	gtggcaattc	tg	472

<210> 87

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{413}

<223> n = A, T, C or G

<400> 87

agaaaccagt	atctctnaaa	acaacctctc	ataccttglg	gacckaattt	tgtgtgcgtg	60
tgtgtgtgcg	cgcataattat	atagacaggg	acalcltttl	tacttttgtg	aaagcttatg	120
cctcttttgg	atctatatct	gtgaaaqttt	taatgatctg	ccataatgtc	ttggggacct	180
ttgtctctctg	tgtaaatggt	actagagaaa	acacctatnt	tatgagtcaa	tctagttingt	240
tttattcgac	atgaaggaag	lllccagatn	acaaacttne	caaactctcc	cttgactagg	300
ggggacaaag	aaaagcnaaa	ctgaacatna	gasacaattn	cctgggtgaga	aattncataa	360
acagaaallg	ggtngtatat	lgaaananng	catcattnaa	acgttttttt	ttt	413

<210> 88

<211> 448

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{448}

<223> n = A, T, C or G

<400> BB

cgcagcgggt	cctctctatc	tagctccagc	ctctcgctg	ccccactccc	cgcgcccgcc	60
gtcctagccn	accatggccg	ggcccccgtg	cgcccccgtg	ctcctgctgg	ccatccctggc	120
cgtggccctg	gcccgtgagc	cgcgggcccg	ctccagtcgc	ggcaagccgc	cgcgccctgg	180
gggaggccca	tggacccccc	gtggaagaag	aaggtgtgcg	gcgtgcactg	gactttgccc	240
tgggnanta	caacaaaccc	gcaacnactt	ttaccnagcn	cgcgctgcag	gttgtgcccc	300
cccaancaaa	ttgttactng	gggtaantaa	ttcttggaag	ttgaacctgg	gccaaacnng	360
tttaccagaa	ccnagccaat	tngaacaatt	nccccccat	aacagccccc	tttaaaaagg	420
gaanucantcc	tgntcttttc	caaatitt				448

<210> 89

<211> 463

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(463)

<223> n = A,T,C or G

<400> 89

gaattttgtg	cactggccac	tgtgatggaa	ccattgggcc	aggatgcttt	gagtttatca	60
gtagtattc	tgcctaaagt	gggtgtgtaa	catgagtatg	taaaatgtca	aaaaattagc	120
agaggtctag	gtctgcatat	cagcagacag	tttgtccgtg	tattttgtag	ccttgaagtt	180
ctcagtgaca	agttntttct	gatgogaagt	ctnattccca	gtgttttagt	cctttgcctc	240
tttnatgttn	agacttgcc	ctninaaatt	gcttttgtnt	ctcgcaggta	ctatctgtgg	300
tttaacaaaa	tagaannact	tctctgcttn	gaanatttga	atatcttaca	ctcnaaaatn	360
aattctctcc	ccatannaaa	acccangccc	ctggganaat	ttgaaaaang	gntccttcnn	420
aattcnnang	anttcagntc	tcataccaca	naacngganc	ccc		463

<210> 90

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 90

agggatggaa	gggtctntnt	actgtoggac	tgttcancca	ccaactctac	aagttgctgt	60
cttccactca	ctgtctgtta	gcntnttaac	ccagactgta	tcttcataaa	tagaaccaat	120
tcttcacccg	tcacatcttc	taggaccttt	ttggattccg	ttagtataag	ctcttccant	180
tcctttgtta	agactlcalc	tggtaaagtc	ttaaqttttg	tagaaaaggaa	tttaattgct	240
cggtctctaa	caatgluctc	tccttgaggt	atttggetga	acaaucaccc	tnaagtcctt	300
ttgtgcctcc	attttaaata	tacttaatag	ggcatlggtt	cactaaglla	aattctgcac	360
gagtcactctg	tctgcaaaag	ttgcgttagt	atctctgcca			400

<210> 91

<211> 480

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(480)

<223> n = A,T,C or G

<400> 91

gagctcggat	ccatcaatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
------------	------------	------------	------------	------------	------------	----

ggctetacccc	acatggggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gactaccgtg	tgccagtgt	ggtagattctc	acacacctcc	nnccgctctt	180
tgtggaaaaa	ctggcacttg	notggacta	gcaagacatc	acttacaat	tcacccacga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcatgtgtt	tttgcctctc	cggcaccagt	300
tgtcaatact	aaccgcgtgg	tttgcctcca	tcacatttgt	gatctgtage	tcggalaca	360
tctcctgaca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	ggtgcctgtt	420
ngatcaggtt	cccatctccc	agtcogaatg	ttcacatggc	atatnttact	tcccacaaaa	480

<210> 92
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 92						
atacagccca	natcccarcca	cgaagatgcg	cttgttgact	gagaacctga	tgcggtcact	60
ggcccccgtg	tagcccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcaactcctt	120
cccacgcagg	cagcagcggg	gbcggtaaat	gaactccact	cgtggcttgg	ggttgacggg	180
taantgcagg	aagaggtctga	ccacctcgcg	gtccaccagg	atgcccgaact	gtgcgggacc	240
tgcaagcaga	ctcctcgatg	gtcatgagcg	ggaagcgaat	gagcccagg	gccttgccca	300
gaaccttcog	cctgttctct	ggcgtcacct	gcagctgctg	ccgctnacac	tgggctcgg	360
accagcggac	aaacggcggt	gaacagccgc	acctcacgga	tgcccantgt	gtcggctctc	420
aggaacggcn	ccagcgtgtc	caggtcaatg	tgggtgaanc	ctccgcgggt	aatggcg	477

<210> 93
 <211> 377
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{377}
 <223> n = A,T,C or G

<400> 93						
gaacggctgg	accttgctc	gcattgtgct	gctggcagga	ataccttggc	aagugctcc	60
agtccgagca	gccccagacc	gctgcccggc	gaugctaagc	ctguctctgg	ccttcccctc	120
cgctcaatg	caqaaccant	agtgggagca	ctgtgtttag	agllaaqagt	gaacactgtt	180
tgattttact	tggggaatttc	ctctgtttata	tagcttttcc	caatgtctat	ttccaaacaa	240
caacaaacaa	ataacatgtt	tgctgtttta	gttglaaaaa	aglaaglaal	lckqlatnta	300
aaqaaalal	tactgtttac	tatcclgclt	gcann:tcLg	tatttattgg	tnctctggaa	360
atcaatctat	tattaaa					377

<210> 94
 <211> 495
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(495)
 <223> n = A,T,C or G

<400> 94						
ccctttgagg	ggttagggtc	cagttcccag	tggaagaaac	aggccaggag	aantgcgtgc	60
cgagctgang	cagatttccc	acagtgaccc	cagagccctg	ggctatagtc	tctgacuccc	120
ccaaaggaaag	accacettct	gaggccatgg	gctggagggc	aggacctaga	ggcaccagg	180
gaaggcccca	ttccqgqct	gttcccgag	gagggaaggga	aggggctctg	tgtgcccccc	240

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acgaggaana ggccttgant cctgggatca nacacccctt caagtgtatc cccacacaaa      300
tgcaagctca ccaagggtccc ctctcagtc cttccctaca ccttgacgg ncactggccc      360
acacccaccc agancancca cccgccatgg ggaatgtact caagggaatcg cngggcaacg      420
tggactctng tccnnnaagg gggcagaatc tccaatagan gganngaacc cttgctnana      480
aaaaaaaaaa aaaaaa

```

<210> 95

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

<400> 95

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ggttacttgg tttcattgcc accacttagt ggaatgtcatt tagaaccatt ttgtctgtct      60
cctctggaag ccttgcgcag agcggacttt gtaattgttg gagaataact gctgaatttt      120
tagctgtttt gagtggatto gcaccuactgc accacaactc autotgaaa ctatttnact      180
tatttattat cttgtgaaa gtatacaatg aaattttgt tcalautgtt tttatcaagt      240
atgatgaaaa gcaatagata tatctctctt tattatggtt aattatgatt gccattatta      300
atcgccaaaa tctggagtgat atgttcttll caccagtaata tatgccittt gtaacllcac      360
tkqgttattt tatlgtaaal gaattacaaa attcttaatt taagaaatg gLangttata      420
tttnttcan taattctctt ccttgtttac gtttaatttt aagaagaatgc at

```

<210> 96

<211> 476

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(476)

<223> n = A,T,C or G

<400> 96

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ctgaagcatt tcttcaaat tnlctacttt tgcattgag acclgtagta agttgacaat      60
gttggtgaat ttcaaaatia tatgttaact ctactagtt tactttctcc cccaaagtctt      120
tttttaactc lgaillttac accacacalc cagaacttet tatatagcct ctaagtctll      180
atctttcaca gtgatgata aagaggtcct ccagtgtctt gngcaneatg ttctagntat      240
agctggetac atacngtggg agttctataa actcatacct cagtgggact naaccaaat      300
tgtgttagtc tcaattccta ccacactgag ggagcctccc aatcactat attcttatct      360
gcaggtactc cttcagaaaa acngacaggg caggtttgca tgaaaaagtn acatctgcgt      420
tacaaagtct atcttctca nangtctgtt aaggaacaat ttaatcttct agcttc

```

<210> 97

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 97

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actttttct atgctgatat gatcttgagt ataagaatgc atatgtcact agaatggata      60
aaaleatgcl gcaaaacttaa tgttcttatg caaatggaa cgctaattgaa aacagactta      120
caatcgcaa ccaaaactca caagtgtca tctgtgttag atttagtga ataagaacta      180
gallgtgctc ctccggatat gattgtttct canatcttgg gcaatnttcc ttagtcaaat      240
caggctacta gaattctgtt attggatatn tgagagcatg aaatttttaa naatacactt      300

```

gtgattatna	aattaatcac	aaattttcact	tatacctgct	atcagcagct	agaaaaacat	360
ntntttttta	natcaaagta	ttttgtgttt	ggaantgttn	aatgaaate	tgaatgtggg	420
ttenatctta	ttttttcccn	gacnactent	tnctttttta	gggnctcttc	tganccatc	479

<210> 98
 <211> 461
 <212> DNA
 <213> Homo sapien

<400> 98						
agtgaattgt	cctccaacaa	aaaccttga	tcaagtttgt	ggcaactgaca	atcagacctta	60
tgetagtacc	tgtcatctat	tgcctactaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaactctatt	cctacttgta	cggactttga	180
agtgaattcag	tttctcttac	ggatgagaga	ctggctcaag	aatatcttca	tgcagcttta	240
tgaagccact	ctgaacacgc	tggttatcta	gatgagaaca	gagaaataaa	gtcagaaaat	300
ttacctggag	aaaagaggct	ttggtctggg	accatcccat	tgaaccttct	cttaaggact	360
tteagaaaaa	ctaccacatg	ttgtgtatcc	tgggtccggc	cgtttatgaa	ctgaccaccc	420
tttggataaa	tcttgaacgt	cctgaacttg	ctcctctgog	a		461

<210> 99
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 99						
gtggcgcggc	gcaggtgttt	cctcgtaccc	caggggcccc	tcccttcccc	aggcgtccct	60
cggcgctctc	gcggggccga	ggaggagcgg	ctggcgggtg	gggggagtg	gaccacccct	120
cgggtgagaa	agccttctct	agcgatctga	gaggcgtgoc	ttgggggtac	c	171

<210> 100
 <211> 269
 <212> DNA
 <213> Homo sapien

<400> 100						
cggcgcaag	tgcactcva	gttggggccg	tggggccgaa	gattctgcca	gcagttggtc	60
cgaactgcya	gacggcgggc	gggacagtcg	cagggtgcgc	gcgggcgctc	ggggtcttgc	120
aaggctgagc	tgaacgcgca	gagggtcgtg	cacgtccccc	gaccttgacg	cagtcgggga	180
cagccggear	agagcccggt	gaagccggag	gcctcgggga	gcccctcggg	aaggggcgcc	240
cagagagatar	gcaggtgcag	gtggccgcc				269

<210> 101
 <211> 405
 <212> DNA
 <213> Homo sapien

<400> 101						
tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaaqt	ttatttttga	60
gctagcaagg	taacagggtg	gggcatgggt	acatgttcaq	gtcaacttcc	tttqtctgtg	120
ttgattgggt	tgtttttatg	ggggcggggt	ggggcagggg	aaacgaagca	aataacclgg	180
agtgggtgca	ccclccctgt	agaaacclgg	tacaaagctc	ggggcagttc	acclggctctg	240
tgaacglocat	tttcttgaca	lcaalqltat	tagaagtcag	gatctctltt	agagagtcga	300
ctgttcttgg	gggagattag	ggtttcttgc	cgaatccaac	aaaaatccact	gaaaaagttg	360
galqatcagt	acgaatcccc	aggcatattc	tcatatcggt	ggcca		405

<210> 102
 <211> 470
 <212> DNA
 <213> Homo sapien

<400> 102						
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60

34

ggcacttaat	ccatttttat	ttcaaaatgt	ctccaaattt	aatccacatta	tacgggtattt	120
tcaaaatcta	aattatttcaa	attagucaaa	locttaccac	ataataccca	aaaatcaaaa	180
atataacttct	ttcagcnaac	ttgtttacata	aafta00000	atatafacgg	ctgggtgtttt	240
caaagtacaa	ttatcttaac	autgcaaaoca	tttkaaggaa	ctaaaataaa	aaaacacact	300
cgcgaagggt	taaagggaac	aacaaattct	tttacaacac	cattataaaa	atcatatctc	360
aaattcttagg	ggaaatatata	cttcaacacg	gatcttcaact	tttactcaact	ttgtttattt	420
ttttaaacca	ttgttttggc	ccacacacat	ggaaaccccc	ctggactagt		470

<210> 103

<211> 581

<212> DNA

<213> Homo sapien

<400> 103

tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttaga	tacataattc	ttaggaaatta	gottaaaatc	tgcctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
attttctctg	tctttaaaat	tatctaattc	ttccattttt	tccttattcc	aagtcaattt	300
gcttctctag	ctccatttcc	tagctcttat	ctactattag	taagtggctt	tttloctaaa	360
agggaaaaca	ggaagagaaa	tggcacacaa	aacaaacatt	tttatattcat	atttctacct	420
acgttaataa	aatagpattt	tgtgaagcca	gctcaaaaga	aggetttagt	cctttllalgt	480
ccatttttagt	cactaaacga	tatcaaatgt	ccaguatgca	aaagglllgt	qaacatttat	540
tcaaaagcta	atataagata	tttcaacatac	tcctctllcl	q		581

<210> 104

<211> 578

<212> DNA

<213> Homo sapien

<400> 104

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gaggtttttc	ttctctatatt	acacatatat	ttccatqlga	attlqlatca	aaccttttatt	300
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caaaactgct	caaattgttt	gttaagttat	ccat,tatct	lagttggcag	gagctaatac	420
aaatcacatt	tacgacugca	ataataaaac	lgaaagtacca	gttaaatatc	caaaataaatt	480
aaaggaacat	tttttagcctg	qqlataakta	gctaattcac	tttacaagca	tttattagaa	540
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<210> 105

<211> 538

<212> DNA

<213> Homo sapien

<400> 105

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gtcttgaaca	ccaatattaa	tttgaggaaa	atcacacaaa	alacalttag	taatttattt	180
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aaatccacta	ttagcaaat	aattactatg	gaattcttgc	lllaattttg	tgetgaatat	300
gggggtgtcac	tgttaaacca	acacattctg	aagggtatcat	tacttagtga	tagattctta	360
tgtacttttg	taatacgtgg	atatgagttg	acaagtctct	ctttcttcaa	tcttttaagg	420
ggcgagaaat	gagggaagaa	agaaagqat	lccgcatact	gttctttcta	tggaaaggatt	480
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<210> 106

<211> 473

<212> DNA

<213> Homo sapien

<400> 106

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<210> 107

<211> 1621

<212> DNA

<213> Homo sapien

<400> 107

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cattgatgca	aatatggttg	aaggaacagc	atatttaagt	tcttttctgt	ggaaaactca	600
gaaatcgagt	ctgtgggaag	cacctcgagg	acagaacatg	ttgggtgglg	gaqacacttt	660
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ccactctaant	caagaaaaga	attacagact	ctgattctac	agtgtatgatt	gatttclaaa	1320
aattggttato	acttagggctt	ttgatttata	aaactttggg	tacttatact	aaattatggt	1380
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atttccactc	ttgattctac	aatgtagaaa	atgaggaaat	gccacaaatt	gtatgggtgat	1560
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<210> 108

<211> 382

<212> PRT

<213> Homo sapien

<400> 108

Met	Ala	Leu	Gln	Gly	Ile	Ser	Val	Met	Glu	Leu	Ser	Gly	Leu	Ala	Pro
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Gly	Pro	Phe	Cys	Ala	Met	Val	Leu	Ala	Asp	Phe	Gly	Ala	Arg	Val	Val
			20					25					30		
Arg	Val	Asp	Arg	Pro	Gly	Ser	Arg	Tyr	Asp	Val	Ser	Arg	Leu	Gly	Arg
			35				40					45			
Gly	Lys	Arg	Ser	Leu	Val	Leu	Asp	Leu	Lys	Gln	Pro	Arg	Gly	Ala	Ala
			50			55					60				
Val	Leu	Arg	Arg	Leu	Cys	Lys	Arg	Ser	Asp	Val	Leu	Leu	Glu	Pro	Phe
65					70				75					80	

Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
 85 90 95
 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
 100 105 110
 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
 115 120 125
 Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
 130 135 140
 Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
 145 150 155 160
 Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
 165 170 175
 Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
 180 185 190
 Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Gly Ala Pro Arg
 195 200 205
 Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
 210 215 220
 Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
 225 230 235 240
 Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
 245 250 255
 Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
 260 265 270
 Asp Val Phe Ala Lys Lys Thr Lys Ala Glu Trp Cys Gln Ile Phe Asp
 275 280 285
 Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
 290 295 300
 His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
 305 310 315 320
 Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala
 325 330 335
 Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu Glu
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 355 360 365
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<210> 109
 <211> 1524
 <212> DNA
 <213> Homo sapien

<400> 109
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 ggtttgtacc acctggggcc cactgtcttc tgcctcgact tcatgggttt caccgtgccc 240
 ctgcttcaca tcttcacggg caacaaacag ctggggccca agatcgctcat cgtgagcaag 300
 atgatgaagg acgtgttctt ctctctcttc tctctcgccg tgtggctggt agcctatggc 360
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cagagggaaa	aaaaaaaaaa	aaaa				1524

<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

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115	120	125
Leu Leu Val Ala Asn Ile	Leu Leu Val Asn Leu	Leu Ile Ala Met Phe
130	135	140
Ser Tyr Thr Phe Gly Lys	Val Gln Gly Asn Ser	Asp Leu Tyr Trp Lys
145	150	155
Ala Gln Arg Tyr Arg Leu	Ile Arg Glu Phe His	Ser Arg Pro Ala Leu
165	170	175
Ala Pro Pro Phe Ile Val	Ile Ser His Leu Arg	Leu Leu Leu Arg Gln
180	185	190
Leu Cys Arg Arg Pro Arg	Ser Pro Gln Pro Ser	Ser Pro Ala Leu Glu
195	200	205
His Phe Arg Val Tyr Leu	Ser Lys Glu Ala Glu	Arg Lys Leu Leu Thr
210	215	220
Trp Glu Ser Val His Lys	Glu Asn Phe Leu Leu	Ala Arg Ala Arg Asp
225	230	235
Lys Arg Glu Ser Asp Ser	Glu Arg Leu Lys Arg	Thr Ser Gln Lys Val
245	250	255
Asp Leu Ala Leu Lys Gln	Leu Gly His Ile Arg	Glu Tyr Glu Gln Arg
260	265	270
Leu Lys Val Leu Glu Arg	Glu Val Gln Gln Cys	Ser Arg Val Leu Gly
275	280	285
Trp Val Ala Glu Ala Leu	Ser Arg Ser Ala Leu	Leu Pro Pro Gly Gly
290	295	300
Pro Pro Pro Pro Asp Leu	Pro Gly Ser Lys Asp	
305	310	315

<210> 113
 <211> 553
 <212> PRT
 <213> Homo sapien

<400> 113
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Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val
35 40 45
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly
50 55 60
Leu Val Cys Val Pro Leu Gly Ser Ala Ser Asp His Trp Arg Gly
65 70 75 80
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile
85 90 95
Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu
100 105 110
Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly
115 120 125
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu
130 135 140
Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala
145 150 155 160
Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr
165 170 175
Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu
180 185 190
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu
195 200 205
Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly
210 215 220
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His
225 230 235 240

Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu
 245 250 255
 Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg
 260 265 270
 Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe
 275 280 285
 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
 290 295 300
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
 325 330 335
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
 340 345 350
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
 370 375 380
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
 405 410 415
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
 420 425 430
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
 435 440 445
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Ala Leu Cys Gly Ala Ser
 450 455 460
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
 515 520 525
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
 530 535 540
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 545 550

<210> 114
 <211> 241
 <212> PRT
 <213> Homo sapien

<400> 114
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 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile
 85 90 95
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
 100 105 110
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys

	115		120		125										
Asp	Tyr	Gly	Ser	Gln	Glu	Asp	Phe	Thr	Gln	Val	Trp	Asn	Thr	Thr	Met
	130					135					140				
Lys	Gly	Leu	Lys	Cys	Cys	Gly	Phe	Thr	Asn	Tyr	Thr	Asp	Phe	Glu	Asp
145					150					155					160
Ser	Pro	Tyr	Phe	Lys	Glu	Asn	Ser	Ala	Phe	Pro	Pro	Phe	Cys	Cys	Asn
				165					170						175
Asp	Asn	Val	Thr	Asn	Thr	Ala	Asn	Glu	Thr	Cys	Thr	Lys	Gln	Lys	Ala
			180					185					190		
His	Asp	Gln	Lys	Val	Glu	Gly	Cys	Phe	Asn	Gln	Leu	Leu	Tyr	Asp	Ile
	195						200					205			
Arg	Thr	Asn	Ala	Val	Thr	Val	Gly	Gly	Val	Ala	Ala	Gly	Ile	Gly	Gly
	210					215					220				
Leu	Glu	Leu	Ala	Ala	Met	Ile	Val	Ser	Met	Tyr	Leu	Tyr	Cys	Asn	Leu
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Gln															

<210> 115
 <211> 366
 <212> DNA
 <213> Homo sapien

<400> 115	
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catttcaactg tgaatgtatat tgtgttgcaa aaaaaaataa gtgtctttgt ttaaatattac	120
ttggtttggt aatccatctt gctttttccc catttggaact agtcattaac ccctctctga	180
actggttagaa aaacatctga agagctagtc tatcagcctc tgacaggtga attggatggt	240
tctcagaacc atttcaccca gacagcctgt ttctatctct tttaatcaat tagtttgggt	300
tctctacatg cataacaaac cctgctccaa tctgtcaact aaaaatctgt gacllgaaat	360
ttagtc	366

<210> 116
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 116	
acaaagatga accatttccct atattatagc aaaaattaaa tctaccctga ttctaatatt	60
gagaaatgag atnaaacaca atnttataaa gtctauttag agaagatcaa gtgacctcaa	120
agactttact attttcatat tttaagacac atgatttaic ctattttagt aacclggttc	180
atacgtttaa caaaggataa tgtgaacagc agagaagatt tgttagcaga aaatctatgt	240
tcaatctngs acletctane tcacagaant ttctattcct tt	282

<210> 117
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 117	
acacatgtcg cttcactgcc ttcttagatg cttctgggtc acatanagga acagggacca	60
tatttatcct cctcctgaa acaattgcaa aataaacaa aatatatgaa acaattgcaa	120

```

aataaggcaa aatatatgaa acaacaggtc tcgagatatt ggaaatcagt caatgaaggga 180
tactgatccc tgatcaactgt cctaattgcag gatgtgggaa acagatgagg tcacctctgt 240
gactgccccca gottactgcc tgtagagagt ttctangctg cagttcagac agggagaaat 300
cgggt 305

```

```

<210> 118
<211> 71
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{71}
<223> n = A,T,C or G

```

```

<400> 118
eccaagggtgt ntgaatctct gacgtgggga tctctgattc cggcacaatc tgagtggaaa 60
santctctggg t. 71

```

```

<210> 119
<211> 212
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{212}
<223> n = A,T,C or G

```

```

<400> 119
ctccggcttg gtgtcagcag cacgtggcat tgaacatngc aatgtggagc ccaaacacac 60
gaaaatgggg tgaaattggc caactttcta tnaacttatg ttggcaantt tgcacacaac 120
agtaagcttg cctttctaast aaaagaaaat tgaaggttt ctactaanc ggaattaant 180
aatggantca aganactccc aggcctcagc gc 212

```

```

<210> 120
<211> 90
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{90}
<223> n = A,T,C or G

```

```

<400> 120
actngttgca natcaggggc cccccagagt caccgttgca ggagtccttc tggctttgcc 60
ctccgcgggc gcagaacatg ctgggggtgg 90

```

```

<210> 121
<211> 218
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> {1}...{218}
<223> n = A,T,C or G

```

```

<400> 121
tgtanctga anaagacaga nagggttgtc aaaaatggag aanccttqua gtcatttlga 60
gaataagatt tgctaaaga ttgggggcta aaacatggtt attgaggac attctgag 120

```


atatncangt aaattangga atgaattcat ggttcttttg ggaattcctt tccgatngcc 180
agcatanact tcatgtgggg atancageta ccttcta 218

<210> 122
<211> 171
<212> DNA
<213> Homo sapien

<400> 122
taggggltga tgcacactga aggcacaaaa ttgagactca actggcttaa ccaataaagg 60
catttcttga ctcatgggac aggaagtcgg atggtagggc atcttcagtg ctgcatgagt 120
caccaccccg qcggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123
<211> 76
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(76)
<223> n = A,T,C or G

<400> 123
tgtagcgtga agacnacaga atgggtgtgtg ctglqcbato caggacacaa lllalatatca 60
ttatcaanta ttgtgt 76

<210> 124
<211> 131
<212> DNA
<213> Homo sapien

<400> 124
accctttccc aaggccaatg tccgtgtgtg taactggccg gctgcaggac agctgcatt 60
caatgtgtg ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120
ttaagatttg t 131

<210> 125
<211> 432
<212> DNA
<213> Homo sapien

<400> 125
accltclata ctggctatga aatagatggg ggaaaattgc gttaccaact ataccactgg 60
cttgaabaaag aggtgatagc tcttcagagg acttctgact ttgtctcaga tgcctgaagaa 120
ctacagtctg catttggcag aaatgaagat gaacttggat taaatgagga tgcctgaagat 180
ttgcctcanc aaacaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg 240
ctcttgaagt atcagtcact ttgagaatg tttcttagtt actgcatact tcatggatoc 300
catggtaggg gtctctgcac tctaagaatg gaattgattt tctttttgca agaattctcag 360
caggaaacat cagaaccact attttctago cctctgtcag agcaaacctc agtgcctctc 420
ctctttgctt gt 432

<210> 126
<211> 112
<212> DNA
<213> Homo sapien

<400> 126
acacaacttg aatagtaaaa tagaaclga gctgaatlt clacttcacl lictaaccat 60
agtaagaatg atatttccc ccagggtc ccaatattt aaaaaattt gt 112

<210> 127

<211> 54
 <212> DNA
 <213> Homo sapien

<400> 127
 accacgaaac cacaaacaag atggaagcat caatccactt gccaaagcaca gcag 54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128
 acctcattag taattgtttt gttgtttcat ttttttctaa tgtctccct ctaccagctc 60
 acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca 120
 ttctctctga agtctagggt acccattttg gggaccatt ataggcaata aacacagttc 180
 ccaaagcatt tggacagttt cttgtttgtt tttagaatgg ttttcctttt tottagcctt 240
 ttctctgaaa aggtcactc agtcccttgc ttgctcagt gactgggctc cccagggcct 300
 aggtctgcctt cttttccatg tcc 323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(192)
 <223> n = A,T,C or G

<400> 129
 acatacatgt gtgtatatatt ttaaatatca cttttgtatc actctgactt tttagcatatc 60
 tgaaaacaca ctaacataat ttntgtgaac catgatcaga tacaacccaa atcattcactc 120
 tagcacatto atctgtgata naaagatagg tgagtttcat ttcccttcacg ttggccaatg 180
 gataaacaaa gt 192

<210> 130
 <211> 362
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(362)
 <223> n = A,T,C or G

<400> 130
 ccctttttta tgggaatgagt agactgtatg tttgaaanatt tanccacaac ctctttgaca 60
 tataatgacg caacaaanaag gtgctgttta gtccctatggg tcagtttatg cccctgacaa 120
 gtttccattg tgttttgacg attttctggc taatcgtygt atcctccatg ttattagtaa 180
 ttctgtattc ctttttgkta acgcclggtg gatqtaacct gctanguggc taactttata 240
 ctattttaaa agctottatt ttgtggctcal taagtggcga atttatgtgc agcactttat 300
 tgcagcagga agucctgtgt ggttggkktg aaagctcttt gclaatctta anaagtaatg 360
 gg 362

<210> 131
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> {1}...{332}
 <223> n = A,T,C or G

<400> 131
 ctttttgaaa gatcgtgtcc actcctgtgg acatcttgtt ttaatggagt ttcccatgca 60
 gtangactgg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaatgaga 120
 gttctcccag gttegccctg ctgctccaag tctcagcage agcctctttt aggaggcatc 180
 ttctgaacta gattaaggca gcttgtaaat ctgatgtgat ttggtttatt atccaactaa 240
 cttccatctg ttatcactgg agaaagccca gactccccan gaonggtacg gattgtgggc 300
 atanaaggat tgggtgaagc tggcgttgtg gt 332

<210> 132
 <211> 322
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{322}
 <223> n = A,T,C or G

<400> 132
 autttttgcaa ttttgtolat ataasceatc ttgggacatt ctccctgaaaa ctagggtgtcc 60
 agtggctaaq aqaactcqaat ttcaagcaat tctgaasagg aaaccagcat gacacagaat 120
 ctcaaatctcc caaacagggg ctctgtggga aaatgaggg aggaaccttg tatctoggg 180
 ttagcaagt taaatgaan atgacaggaa aggccttatt atcaacaaag agaagagttg 240
 ggatgcttct aaaaaaaact ttggtagaga aaataggaat gctnaatcct agygaagcct 300
 gtaacaatct acaattggtc ca 322

<210> 133
 <211> 278
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{278}
 <223> n = A,T,C or G

<400> 133
 acaagccttc acaagtttaa ctaaattggg attaatcttt ctgtanttat ctgcataatt 60
 cttgtttttc ttccatctg gctcctgggt tgacaatttg tggaaacaac tctattgcta 120
 ctatttaaaa aaaatcacaa atctttccct ttaagctatg ttnaattcaa actattcctg 180
 ctattcctgt ttgtcaaaag aaattatatt ttcaaaaata tgintatttg ttgatgggt 240
 cccaagaaac actaataaaa accacagaga ccagcctg 278

<210> 134
 <211> 121
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{121}
 <223> n = A,T,C or G

<400> 134
 gtttanaaaa cttgttttagc tccatagagg aaagaatgtt aaactttgta ttttaaaaca 60
 tgattctctg aggttaaaact tggttttcaa atgttatatt tacttgatt ttgcttttgg 120
 c 121

<210> 135

<211> 350
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(350)
 <223> n = A,T,C or G

<400> 135
 acttanaacc atgcctagca catcagaate cctcaaagaa catcagtata atcctataacc 60
 atancaagtg gtgactgggt aagcgtgcga caaagggtcag ctggcacatt acttgtgtgc 120
 aaacttgata cttttgttct aagtaggaac tagtatacag tncctaggan tggtaactcca 180
 ggggtgcccc caactcctgc agccgctcct ctgtgccagn cctgnaagg aactttcgt 240
 ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgetgag 300
 ttccccagga tgcaagcct ggtgctcaac tctggggcg tcaactcagt 350

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(399)
 <223> n = A,T,C or G

<400> 136
 tgtaccgtga agacgacaga agttgcatgg caggggacagg gcagggcoga ggccagggtt 60
 gctgtgattg tatccgaata ntctcgtga gaaaagataa tgagatgacg tgacagcct 120
 gcagacttgt gtctgccttc aanaagccag acaygaaggc cctgcctgcc ttggtctga 180
 cctggcgggc agucagccag ccacagggtg gcttctloct lttgtgtga caacnccaag 240
 aaaactycag agggccaggg tcagggtgna gtgggtangt gacccalaea caccagggtg 300
 tcccaggaa cggggcaag qccatccca cctacagcca gcctgcccac tggcgtgatg 360
 ggtgcagang galgaagcag ccagntgltc tgcLgtggt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tnggggtga tgctggtgg anaaqttcan gtgacttcan galgggtgtg 60
 ggagggaagtg tgtgacgta gggatqtaga ngktttggcc gtgcLaaatg agcttcggga 120
 ttggctggtc ccactggtg tuactgtcat tggtggggt cctgt. 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 138

aactactgga atgccacatt cacaaacagaa tcagagggtct gtgaaaacat taatgggtcc	60
ttaacttctc cagtaagaat cagggaacttg aatgggaac gttaacagcc acatgcccac	120
tgctgggcag tctcccatgc ctccacacgt gaaagggtt gagaaaaac acatccaatg	180
tcatgtgttt ccagccacac caaaagggtgc ttgggggtgga gggctggggg catanenggt	240
cangcctcag gaagcctcaa gtcccatcca gctttgcac tgtacattcc ccattttas	300
aaaaactgat gccttttttt tttttttttg taanaallc	338

<210> 139
 <211> 382
 <212> DNA
 <213> Homo sapien

gggaattcttg gtttttggca tctgggttgc ctatagccga ggccactttg acagaacaaa	60
gaaagggact cagaglaaga aggtgattta cagccagcct agtgcccgaa gtgaaggaga	120
attcaaacag acctcgtcat tcttggtgtg agcctggctg gctcacgcc tatcatctgc	180
atttgacctt ctcagglgct accggactct ggccctgat gtctgtagt tccaggatg	240
ccttatllgt cttctacacc ccacagggcc cctacttct tcggatgtgt ttttaataat	300
gtcagctatg tccccatcc tcttccatgc cctccctccc tttcctacca ctgctgagt	360
gccgggaact tgttttaagt gt	382

<210> 140
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) . . . (200)
 <223> n = A, T, C or G

acaaanctt ctttctgttg tgttngattt tactataggg gttingcttn ttctaaanct	60
acttttcat taaancttt tgttaagtgt caggctgcac ttgtctccat anaattattg	120
ttttcacatt tcaacttcta tgtgtttgtc tottanagca ttggtgaat cacatatttt	180
atattcagca taaaggagaa	200

<210> 141
 <211> 335
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) . . . (335)
 <223> n = A, T, C or G

actlctttt caaacacac atattgttgc aaaaacacat agaaaaataa agtttggttg	60
gggtgctgac taaacttcaa gtcacagact tttatgtgac agattggagc aggttttgtt	120
atgcatgtag agaaccacaa ctattttatt aaacaggata gaaacaggct gtctgggtga	180
aatggttctg agaaccatcc aattcacctg tcagatgctg atanactagc tcttcagatg	240
tttttctacc agttcagaga tnggttaatg actanttcca atggggaaaa agcaagatgg	300
attcacaaac caagtaattt taaacaaaga caatt	335

<210> 142
 <211> 459
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> {1}...{459}

<223> n = A,T,C or G

<400> 142

accagggttaa	tattgccaca	tatatccttt	ccaattgcgg	gctaaacaga	cgtgtattta	60
gggttggtta	aagacaaccc	agcttaatat	caagagaaat	tgtgaccttt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagc	agtctgatca	180
cacatgggtcc	aacaacactc	aaataataaa	tcaaatatna	tcagatgtta	aagattggtc	240
ttcaaacatc	atagccaatg	atgccccgct	tgcctataat	ctctccgaca	taaaaccaca	300
tcaacacctc	agtggccacc	aaaccattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctagggatct	420
cagcangggg	gggagggaac	agctcaacct	tggcgant			459

<210> 143

<211> 140

<212> DNA

<213> Homo sapien

<400> 143

acatttcctt	ccaccaagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aaatccaaa	agtctctct	agaasggagt	agtgtcacca	acccacacca	tctccctgag	120
acctccgagc	ttccctgtgt					140

<210> 144

<211> 164

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{164}

<223> n = A,T,C or G

<400> 144

acttcagtac	caacatacac	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaasacaan	atcactanc	caatcactta	tacaaatttg	120
aggcaattaa	tocalatttg	ttttcaataa	ggaaaaaaag	atgt		164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{303}

<223> n = A,T,C or G

<400> 145

acgtagacaa	tcaaactttg	tatttgtaet	ggcaaacatc	cagnagcaat	t.cctaaacaa	60
actggagggt	atttataccc	aettatccca	ttcattaaca	tgcctctctc	ctcaggctat	120
gcaggacagc	tatcalaaqt	cggccacagg	atccagatac	taccatttgt	ataaactlca	180
gtaggggagt	ccatccaaqt	gacagggtct	atcaaaggag	gaaatggaac	ataagcccag	240
tagtcaaatn	tlgcttagct	gaascagcca	caasagactt	accgcccgtg	tgattancat	300
caa						303

<210> 146

<211> 327

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...{327}
 <223> n = A,T,C or G

<400> 146
 actgcagctc aattagaagt ggtctctgac ttctcatcanc ttctccctgg gctccatgac 60
 actggcctgg agtgactcat tgcctctggt ggttgagaga gctcccttgc caacaggcct 120
 ccaagtcagg gctgggattt gtttcccttc cacattctag caacaatatg ctggccactt 180
 cctgaacagg gagggctggg ggagccagca tggacaagc tggcaatttc taaagtatgc 240
 agacttgcgc ctgggcctgt cacacctact gatgaccttc tgtgcctgca ggatggaatg 300
 taggggtgag ctgtgtgact ctatggt 327

<210> 147
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...{173}
 <223> n = A,T,C or G

<400> 147
 acattgtttt tttagataa agcattgana gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtt 173

<210> 148
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{477}
 <223> n = A,T,C or G

<400> 148
 acaaccactt tatctcatcg aatttttaac ccaaacctac tcaactgtgc ttctatctct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcatact 120
 gccctactac ctgtctgaat aatcacattc ccttctgtgc ctgaccctga agccattggg 180
 gtggtcctag tggccatcag tccangcctg caacctgagc ccttgagctc cattgctcac 240
 nccancccac ctacccgacc ccattctctt acacagctac ctcttgctc tctaccacca 300
 tagattatnt cczaattcag tcaatttaag taattattaac actctaccag acatgtccag 360
 caccactggt aagccttctc cagccaaacac acacacacac acacacacac acacacatat 420
 ccaggcacag gctacclcal ctccacaalc acccctttaa tlaacatgcl atggtgg 477

<210> 149
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 149
 acagttgtat tataatatca agaaataaac ttgcaatgag agcatttaag agggaagaac 60
 taacgtatct tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct 120
 gatgataaat aagaatcagc caggtaagtg ggtgggtgtg tatgggcaca gtgaagaaca 180
 tttcaggcag agggaacagc agtgaaa 207

<210> 150
 <211> 111
 <212> DNA
 <213> Homo sapien

50

<220>
 <221> misc_feature
 <222> (1)...(111)
 <223> n = A,T,C or G

<400> 150
 accttgabtt cattgctgct clgatggaaa cccaactatc taatttagct aaacatggg 60
 cacttaaatg tggkacagtgt ttggacttgt taactantgg catctttggg t 111

<210> 151
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 151
 agcggggcag gtcatttga acattccaga tacctatcat tactogatgc tgttgataac 60
 agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaaacat 120
 ggataccaac cggaaaaccc ctatcccgca cagcccactg tggccccac tgtctacgag 180
 gtgcacccgg ctacgt 196

<210> 152
 <211> 132
 <212> DNA
 <213> Homo sapien

<400> 152
 acagcauttt cccatgcaag aagggagaaa ttcttaaatg taggagaaaag ataacagaac 60
 cttccccctt cccatcctgtg gtggaaaacct gatgctttat gttagacagga atagaaccag 120
 gagggagttt gt 132

<210> 153
 <211> 285
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(285)
 <223> n = A,T,C or G

<400> 153
 accaanccca ngnaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag 60
 ctltctgctct tatgtcctca tctgacaact ctttaccatt ttatccctcg ctacgcagga 120
 gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggaggaag tcatcaaac 180
 cctggctagt gaggggtggg cgcogtccct ggatgacggc atctgtgaag tcttgacca 240
 gtctgcaggc cctgtggaag cgcogtccac acggagtnag gaatt. 285

<210> 154
 <211> 333
 <212> DNA
 <213> Homo sapien

<400> 154
 accacagtcc tgttgggcca gggcttcatt accctttctg tgaaaagcca tattalccc 60
 accccaaatt ttctcttaa tatcttlaac tgaaaggggtc agcctcttga clqcaaagac 120
 cctaagccgg ttacacagct aactccact ggcctggtt tgtgaattg ctgctgacctg 180
 attggcacag gagtggagg tcltcagctc cccctcctcg tggaaagaga ctctgatttg 240
 agtttcacaa attctggggc cactcgtca litgtcctct gaataaaat ccggagaatg 300
 gtcaggcctg tctatccct alggatcttc cgg 333

<210> 155

<211> 308
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(308)
 <223> n = A,T,C or G

<400> 155
 actggaaala ataaaaccca catcacagtg ttgtgtcaaa gatcatcagg gcatggatgg 60
 gaaagtgttt tgggaactgl aaagtgccta acacatgac gatgattttt gttataatat 120
 ttgaatcag gtgcatacaa actctactgc ctgctectcc tgggccccag cccagacccc 180
 atcacagctc actgclctgt tcatccagga ccagcatgta gtggctgatt cttcttgggt 240
 gcttttagcc tccaaagatt tctctgaagc caaccaaacc totangtgta aggcattgtg 300
 gccctggc 308

<210> 156
 <211> 295
 <212> DNA
 <213> Homo sapien

<400> 156
 accttgctcg gtgcttggaa catatttaga actcaaaata tgagatgata acagtgccca 60
 ttattgatta ctgagagaac tgtagacat ttagttagag allttclaca cagggaactga 120
 gaataggaga ttatgttttg cctcatatt ctctccclac ctcttggct cttctatgt 180
 ctaatafatt ctcaatcann taaggcttag ataatcagga aatcgacca ataccaatat 240
 aaaaaccagat gtctatcctt aaqattttca aatagaaacc aaattaacag actat 295

<210> 157
 <211> 126
 <212> DNA
 <213> Homo sapien

<400> 157
 acaagttttaa atagtgtgt cactgtgcat gtgctgaaat gtgaaatcca ccacatttcl 60
 gaagagcaaa acaaatctg tcatgtatc tctatcttgg glogtgagta tctctgtccc 120
 cttagt 126

<210> 158
 <211> 442
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(442)
 <223> n = A,T,C or G

<400> 158
 acccaactgg cttggaaaca cccatcctta atacgatgat tttctgtcg tgtgaaatg 60
 aancagcag gctgcccta gtcagtcctt ccttccagag aaaaagagat ttgagaaagt 120
 gcctgggtaa ttcaacatta atttctctcc caaaactc ctagtcttcc cttaatattt 180
 ctggtgggtc tgaccaaagc aggtcatggt ttgtlqagc tllggatcc caglnaagla 240
 natgtttgta gccttgcata cttagucctt cccacgcaca aacggaglgg cagagtgtg 300
 ccaacccgtg ttccccagtc cactgagaca gattcaagat gcaggaattc ggaagctgga 360
 nacagacggg ctctttgcag agccgggact ctgagangga catgaggggc tclgactctg 420
 tgttcattct ctgctgtcct gt 442

<210> 159
 <211> 498
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(498)

<223> n = A,T,C or G

<400> 159

acttcacagg	aacgtttgtt	tttccgttga	gcctgaactg	atgggtgacg	ttgtaggttc	60
tccaacaaga	actgaggttg	cagagcgggt	agggaaagat	gctgttccag	ttgcacctgg	120
gctgctgttg	actgtttgtt	attcctcact	acggcccaag	gttgtggaac	tggcanaaag	180
gtgtgttgtt	gganttgagc	tgggpcggct	gtgttaggtt	gtgggtctct	caacaggggc	240
tgctgtgggt	cggggangtg	aangtgttgt	gtcacttgag	cttggccagc	tctggaaagt	300
antanattct	tccatgaagg	cagcgttgtt	ggagutggca	agggtcantg	ttgtgtgtaa	360
cgaaccagtg	ctgtgtgtgg	tgggtgtana	tctccacaca	agcctgaagc	tatggtgtcn	420
tcaggtaana	atgtgttttc	agtgtccctg	ggcngctgtg	qaaggttgtg	natgttcacc	480
aagggaalaa	gctgtggt					498

<210> 160

<211> 380

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(380)

<223> n = A,T,C or G

<400> 160

acctgcaccc	agcttccctg	ccaaactcac	aaggagacat	caacctctag	acaggggaaac	60
agcttcaggc	tacttccagg	agacagagcc	acacagcagc	aaacaaatat	tcccatgcct	120
ggagcagggc	atagagggaag	ctganaaatg	tggggctctg	ggaagccatt	tgagtctggc	180
cactagacat	ctcatcagcc	acttggttga	agagatggcc	catgacccca	gatgcctctc	240
ccacccctac	ctccatctca	cacacttgag	ctttccactc	tgtataattc	taacatcctg	300
qagaaaaatg	gcagtttgac	cgaacctgtt	cacaacggta	gaggctgatt	tctaacgaaa	360
cttgtagaat	gaagcctgga					380

<210> 161

<211> 114

<212> DNA

<213> Homo sapien

<400> 161

actccacatc	ccctctgagc	agggcgttgt	cgttcaagggt	gtatttggcc	ttgcctgtca	60
cactgtccac	tgccccctta	tccacttggt	gcttaalccc	tggaaagagc	atgt	114

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

acttllctga	tcgaatcaaa	tgataacttag	tgtagtttta	atatcctcat	atatatcaaa	60
gttttactac	tctgtatatt	tigtasacca	ggtaaccaga	acatccagtc	atacagcttt	120
lggtgatata	taacttggca	ataaccagat	ctggtgatac	ataaaactac	tcactgt	177

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(137)
 <223> n = A,T,C or G

<400> 163

catttatata	gacaggcgtg	aagacattca	cgacaaaaac	gcgaatttct	atcccgtag	60
canagaaggc	agctacggct	actcctacat	cctggcgtgg	gtggccttcg	cctgcacctt	120
catcagcggc	atgatgt					137

<210> 164
 <211> 469
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(469)
 <223> n = A,T,C or G

<400> 164

cttatcacaa	tgaatgttct	cctgggcagc	gttgtgatct	tigccacctt	cgtgacttta	60
tgcattgcct	catgctatct	catacctaat	gagggagttc	caggagattc	aaccaggaaa	120
tgcattggatc	tcaaaaggaa	cbaaacaccc	ataaactcgg	agtggcagac	tgacaactgt	180
gagacatgca	cttgctcaga	aacagaaatt	tcatgttgca	cccttgtttc	tacacctgtg	240
ggttatgaca	aagacaaact	cbaaagaatt	ttaagaagg	aggactgcaa	gtatatcgtg	300
gtggagaaag	aggacccaaa	aaagaacctg	tctgtcagtg	aatggataat	ctaattgtct	360
tctagtaggc	acagggtctc	caggccaggc	ctcatctctc	ctggcctctc	aatagtcatt	420
gattgtgtag	ccatgcctat	cagtaaaaag	atntttgagc	aaacacttt		469

<210> 165
 <211> 195
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(195)
 <223> n = A,T,C or G

<400> 165

acagtttttt	atanatateg	acattgccgg	caettgtgtt	cagtttcaia	aagctgggtg	60
atccgctgtc	atccactatt	ccttggttag	agtaaaaatt	attcttatag	cccattgtcc	120
tgcaggccgc	cggcccgtag	ttctcgtctc	agtcgtcttg	gcacacaggg	tgccaggact	180
tcctctgaga	tgagt					195

<210> 166
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 166

acatcttagt	agtgtggcac	atcaggaggc	catcagggtc	acagtcactc	atagcctcgc	60
cgaggtcggg	gtccacacca	cgggtgtagg	tgtgcttaat	cttgggcttg	gcgccacact	120
ttggagaagg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgaactcg	ccaaagaatt	180
tttgacagcc	agcctgagca	aggggcggat	gltcagcttc	agclccctct	tcgtcagggt	240
gatgccaaac	tcgtctangg	tcggtgggaa	gctgggltcc	acntcaccta	caacctgggc	300
gangatctta	taaagaggct	ccnagataaa	ctccacqaaa	cttcctctgg	agclgctagt	360

nggggccccttt ttggtgaact ttc

383

<210> 167
 <211> 247
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(247)
 <223> n = A,T,C or G

<400> 167
 acagagccag accttggcca taaatgaanc agagattaag actaaacccc aagtoganat 60
 tggagcagaa actggagcaa gaagtgggcc tggggctgaa gtagagacca agggcactgc 120
 latencata cacagagcca actctcaggc caaggcnatg gttggggcag anccagagac 180
 tcaactgan tccaaaatgg tggctggaac actggtcatg acanaggcag tgactctgac 240
 tgaagtc 247

<210> 168
 <211> 273
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(273)
 <223> n = A,T,C or G

<400> 168
 acttctaagt ttctagaag tgggaggatt gtantcatcc tgaaaatggg tttacttcaa 60
 aatccctcan ccttggtcctt cactactgic tatactgana gtgtcatgtt tccacaaagg 120
 gotgacacct gagcctgnat ttctactcat ccttgagaag ccttttcag taggggtggc 180
 aattcccaa: ttcttggca caagcttccc aggttttctc ccttggaasa ctccagcttg 240
 agtcccaget acactcatgg gctgacctgg gca 273

<210> 169
 <211> 431
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(431)
 <223> n = A,T,C or G

<400> 169
 acagcccttg cttccccaa ctccacagtc tcagtcagaa aagatcatct tccagcagtc 60
 agctcagacc aggttcasag gatgtgacal caacagtttc tggtttcaga acaggttcta 120
 ctactgtcaa atgacccccc atacttccic aaaggtgtg gtatgttttg cacaggtgag 180
 ggcagcagaa agggggtant tactgatgga caccatcttc ttgtatact ccacactgac 240
 cttgccatgg gcaagggccc ctaccacaaa acaaatagga tcactgctgg gcaaccagtc 300
 acccacatca ctgacaacct ggatggaaaa agaantgcca actltcatat atccaactgg 360
 aaagtgtatc gatactggat tcttaatten ctltcaaaagc ttctgggggc catcagctgc 420
 tgaacactg a 431

<210> 170
 <211> 266
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 170
 acctgtgggc tgggctgtta tgccctgtgcc ggctgctgaa agggagttca gaggtggagc 60
 tcaggagagc ctggcaggcat ttgccaanc ctctccanag canagggagc aacctacact 120
 ccccgctaga aagacaccag attggagtcg tgggaggggg agttgggggtg ggcatattgat 180
 gtatacttgt caccctgaatg aangagccag agaggaanga gacgaanatg anattggcct 240
 tcaaaagctag gggctctggca ggtgga 266

<210> 171
 <211> 1248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1248)
 <223> n = A,T,C or G

<400> 171
 ggcagccaaa tcataaacgg cgaggactgc agcccgcaact cgcagccctg gcaggcggca 60
 ctggtcatgg aaaaacgaatt gttctgctcg ggccglectg tgcatccgca gtgggtgctg 120
 tcagccgcac actgtttcca gaagtgaagt cagagctcct acaccatcgg gctgggctcg 180
 cacagtcttg aggcggacca agagccaggg agccagatgg tggaggccag cctctccgta 240
 cggcaccacg aglccaccag acccttgctc gctaaccgac tcattgctcat caagttggac 300
 gaatccgtgl cagggtctga caccatccgg agcatcagca ttgcttcgca gtgcccatac 360
 gcgggggaact ctgacctcgt ttctggctgg ggtctgctgg cgaaaggcag aatgootacc 420
 glgctgcagt gcgtagaact gtccgttggtg tctgaggagg totgcagtaa gctctatgac 480
 ccgctgtacc accccagcat gttctgcgca ggccggaggc aagaccagaa ggactccctg 540
 aacgggtgact ctggggggcc cctgatctgc aacgggfact tgcagggoot tgytctttc 600
 ggaaaagccc cgtgtggcca agttggcgtg ccaggtgtct aacuaacct ctgcaaatlc 660
 actgagtggc tagagaaaaa cgtccaggcc agtttaactt ggggactggg aacctatgaa 720
 attgaccccc aaatacater tgccgnaagga attuaggaat atctgttccc agccctcccl 780
 cccatcaggcc caggagtcca ggcgccagc ccctctccc tcasaccag ggtacagatc 840
 cccagccctt cctccctcag aaccaggagt ccagaccccc cagccctccc tccctcagac 900
 ccaggagtcc agccctctct cctccagacc caggagtcca gaccctccag cccctctctc 960
 ctccagaccca ggggcccagg ccccccaccc ctctctctc agactcagag gtccaaagccc 1020
 ccaccccttc attcccccag cccagagggtc cagggtccag ccctontcc ctccagaccca 1080
 ggggcccact gccacctaga ctntccctgt acacagtgcc ccttctgtgg acgttgaccc 1140
 aaccliacca gttgggtttt catttttngt ccttttcccc tagatccaga aataaagttt 1200
 aagaggaagng caaaaaaaa aaaaaaanaa aaaaaaanaa aaaaaaaa 1248

<210> 172
 <211> 159
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(159)
 <223> Xaa = Any Amino Acid

<400> 172
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1 5 10 15
 Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
 20 25 30
 Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
 35 40 45
 Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly

50	Arg Met Pro Thr Val	55	Leu Gln Cys Val Asn Val	60	Ser Val Val Ser Glu
65	Glu Val Cys Ser Lys	70	Leu Tyr Asp Pro Leu Tyr	75	His Pro Ser Met Phe
		85		90	
	Cys Ala Gly Gly Gln		Xaa Gln Xaa Asp Ser Cys		Asn Gly Asp Ser
		100		105	
	Gly Gly Pro Leu Ile Cys		Asn Gly Tyr Leu Gln Gly		Leu Val Ser Phe
		115		120	
	Gly Lys Ala Pro Cys Gly		Gln Val Gly Val Pro Gly		Val Tyr Thr Asn
		130		135	
	Leu Cys Lys Phe Thr Glu		Tyr Ile Glu Lys Thr		Val Gln Ala Ser
		145		150	
				155	

<210> 173
 <211> 1265
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1265)
 <223> n = A,T,C or G

<400> 173

ggcagccccc	artcgcagcc	ctggcggggc	gcactgggtca	tggaaaacga	attgttctgc	60
tcgggagctcc	tggtgcaccc	gcagtggggtg	ctgtcagccc	cacactgttt	ccagaactcc	120
tacaccatcg	ggctgggccc	gcacagtctt	gaggccgacc	aagagccagg	gagccagatg	180
gtggaggcca	gcctctccgt	acggcaccca	gagtacaaca	gaccttgc	cgctaaccgac	240
ctcatgctca	tcagtttggg	cgaatccgtg	tcogagctcg	acaccatccg	gagcatcagc	300
attgcttccg	agtgcctac	cggggggaa	tccttgcctg	tttctggctg	gggtctgctg	360
gcgaacgggtg	agtcacggg	tgtgtgtctg	ccctcttcaa	ggaggctcctc	tgcccagtcg	420
cggggggtga	cccgagctc	tggttcccag	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtccgt	gggtgtctga	gaggtctgca	gtaagctcta	tgaccgctg	taccacccca	540
gcctgtttctg	cgccggcgga	gggcaagacc	agaaggactc	ctgcaacggg	gactctgggg	600
ggccctctga	ctgcaacggg	tacttgagg	gccttgtgtc	cttgggaacc	gccccctgtg	660
gccaagtttg	cgtgcccggg	gtclacacna	acctctgcaa	attcactgag	tggtatagag	720
aaaccgtcca	ggccagttaa	ctctggggac	tgggaaccna	tgaastlgac	cccccaatag	780
atcctgcgga	aggaattcag	gaatatctgt	tcccagcccc	tcctccctca	ggccnaggag	840
tccaggcccc	cagcccctcc	tcctcaaac	caagggtaca	gatccccagc	ccctctccc	900
tcagaccrag	gagtcacag	ccccagccc	ctcctccctc	agaccagga	gtccagcccc	960
tcctccntca	gacccaggag	tccagacccc	ccagcccctc	ctcctcaga	cccagggggtt	1020
gaggccccca	acccctctc	cttcagagtc	agagggtccaa	gcccccaacc	ccctgttccc	1080
cagacccaga	ggtnnaggtc	ccagcccctc	ttccntcaga	cccagnggtc	caatgccacc	1140
tagattttcc	ctgnacacag	tgccccttg	tggnangttg	acccaacctt	accagttggg	1200
ttttcatttt	tngtcccttt	cccttagatc	cagaaataaa	gtttaagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174
 <211> 1459
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1459)
 <223> n = A,T,C or G

<400> 174

ggtcagccgc	acactgtttc	cagaagtgag	tgacagctc	ctacaccate	gggctgggcn	60
tgacagctct	tgaggccgac	caagagccag	ggagccagat	ggtagggcc	agctctnccg	120
tacggcacc	agagtacaac	agacccttgc	tcgtaacga	ctcatgctc	atcaagttgg	180

aaggaatccgt	gtccgagttct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcoccta	240
cgcgggggaa	ctcttgccctc	gtttctggct	ggggctctgt	ggcgaaacgt	gagctcacgg	300
gtgtgtgtct	gcccccttca	aggaggttct	ctgcccagtc	gcgggggctg	acccagagct	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tggtgtclaa	420
ngaggtctgc	antaagctcl	atgacccgct	gtcccacccc	ancatgttcl	gcgcgggctg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgaat	540
caggggaagg	tggaggaagg	ggagacagag	acacacaggg	ccgcatggcg	agatgcagag	600
atggagagac	acacagggag	acagtgcata	ctagagagag	aanctgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcagaagg	agagagaaac	agaaacagac	atgggggggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaaca	gcattggggcc	tgaggggcgt	780
gacctccacc	caatagaaaa	tectcttata	acttttgact	ccccaaaaac	ctgectagaa	840
atagcctact	gttgacgggg	agccttacca	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgcat	catgatatac	ctttgttgga	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	tttcttaaat	tgttgcaact	ctcctaaaaa	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttgttcaag	ggtcaactgt	1080
gtacccagag	ggaaacagtg	acacagattc	atagaggtga	aacacgaaga	gaaacaggaa	1140
aaatcaagac	tctacaaaga	ggctyggcag	ggtggctcat	gcctgtaatc	ccagcacttt	1200
gggaggogag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggcctaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatgttggc	aggogcctgt	1320
aatcccaagc	acttgggagg	ctgaggcagg	agaattgctc	gaatatggga	ggcagaggtt	1380
gaagtgaatt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaaa					1459

<210> 175

<211> 1167

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(1167)

<223> n - A,T,C or G

<400> 175

ggcgagccct	ggcaggcggc	actgggtcatg	gaaaaacgaat	tggtctgctc	gggggtcctg	60
gtgcattccg	agtgggtgct	gtcagccgca	cactgtttcc	agaactccta	cacctatcgg	120
ctgggctctg	acagtcttga	ggccgaccaa	gagccaggga	gccagatggt	ggaggccagc	180
ctctccgtac	ggcaccacaga	gtacaacaga	ctcttgctcg	ctaaccgact	catgctcctc	240
aagtlggagc	aatccglgtc	cgaqtctgac	accatccggg	gcataagcat	tgcttcgcaa	300
lqccctaccg	cggggaactc	ctgocctcgt	tctggtctga	gtctgctagg	gaacggcaga	360
atgcctaccg	tgtgcaactg	cgtgaacgtg	lccgttggtgt	ctgaggagngt	ctgcaglaay	420
ctctatgacc	cgtgttaccg	ccccagcctg	tcttgccgca	gcggaggggca	agacccagag	480
gactcctgca	acggtgactc	tggggggccc	ctgat.ctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	cagggtgtcta	caccaacctc	600
tgcaaattca	ctgagtggat	agagaaaaacc	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccca	aatacatcct	gcgggaangaa	ttcagggaata	tctgttccca	720
gccccctctc	cctcaggccc	aggagtccag	gccccccagc	cctcctccct	caaaaccaagg	780
gtacagatcc	ccagccctct	ctccctcaga	cccaggagtc	cagacccccc	agccctcctt	840
ccntcagacc	caggagtcca	gccccctctc	cntcagacgc	aggagtccag	accccccagc	900
ccntcctccg	tcagaccag	gggtgcaggc	ccccaacccc	tcntccntca	gagtcagagg	960
tccaagcccc	caacccctcg	ttccccagac	ccagaggtnc	aggtcccagc	ccctcctccc	1020
tcagaccag	cgggtccaat	ccacctagan	tttccctgta	cacagtgcgc	ccttgtggca	1080
ngttgaccca	accttaccag	ttgggttttc	attttttgtc	cctttccccc	agatccagaa	1140
ataaagtnta	agagaagcgc	aaaaaaa				1167

<210> 176

<211> 205

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(205)

<223> Xaa = Any Amino Acid

<400> 176

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Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1      5      10      15
Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20      25      30
Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35      40      45
Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50      55      60
Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65      70      75      80
Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85      90      95
Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
100      105      110
Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
115      120      125
Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
130      135      140
Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
145      150      155      160
Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
165      170      175
Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
180      185      190
Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
195      200      205

```

<210> 177

<211> 1119

<212> DNA

<213> Homo sapien

<400> 177

```

gagcactcgc agccctggca ggcggcactg gtcattggaa acgaattgtt ctgctcgggc 60
gtcctgggtgc atccgcagtg ggtgctgtca gccgcacact gtttccagaa ctcctacacc 120
atcgggtcgg gctgcacag tcttgaggcc gaccagagc cagggagcca gatggtgagg 180
gccagcctct ccgtacggca cccagagtac aacagaccct tgcctcglac cgcctcatg 240
ctcatcaagt tggacgaatc cgtgtccgag tetgacaccc kccggagcat cagcattgct 300
tcgcagtccc ctaccgagg gaaetcttgc ctggtttctg gctggggctc gctggcgaa 360
gatgctgtga ttgccatcca gtcccagact gggggagct gggagtgtga gaagctttcc 420
caacuctggc agggttgtac cattkagcca Acttccagtg caaggacgtc ctgctgcate 480
ctcactlgggt gctcactact gctcactgca tcaccggaa cactgtgac aactagccag 540
caccatagtt ctccgaagtc aqactatcat gattactgtg ttgactgtgc tgtctattgt 600
actaaccatg cngatgttts ggtgaaatta gcgtcacttg gcctcaacca tottggtato 660
cagttatcct cactgaattg agatttcctg cttcagtgte agccattccc acataatttc 720
tgacctacag aggtgaggga tcatatagct cttcaaggat gctggfacte ccctcacaac 780
ttcatttctc ctgttgtagt gaaaggtgag cctctcggag cctcccaggg tgggtgtgca 840
ggtcacaatg atgaatgtat gatcgtgttc ccattaccca aagcctttaa atccctuatg 900
ctcagtcacac cagggcaggt ctagcatttc ttcatttagt gtatgctgtc cattcatgca 960
accacctcag gactcctgga ttctctgct agttgagctc ctgcatgctg cctccttggg 1020
gaggtgaggg agaggggcca tggttcaatg ggatctgtgc agttgttaac cattaggtgc 1080
ttaataaaca gaagctgtga tgttaaaaa aaaaaaaa 1119

```

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(164)
 <223> Xaa - Any Amino Acid

<400> 178
 Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1 5 10 15
 Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20 25 30
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35 40 45
 Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
 50 55 60
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65 70 75 80
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85 90 95
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
 100 105 110
 Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
 115 120 125
 Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
 130 135 140
 Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
 145 150 155 160
 Pro Gly Thr Leu

<210> 179
 <211> 250
 <212> DNA
 <213> Homo sapien

<400> 179
 ctggagtgcc ttgggtgtttc aagcccttgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgcc ccggccgggg gatgcgagggc tgggagcacc ctggcccggc tgtgattgct 120
 gccaggcaact gttcatctca gcttttctgt ccttttgcgc ccggcaagcg cttctgctga 180
 aagttcatat ctggagcctg atgtcttaac gaataaaggt cccatgctcc auccgaaaaa 240
 aaaaaaaaaa 250

<210> 180
 <211> 202
 <212> DNA
 <213> Homo sapien

<400> 180
 actggtccag tgtggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca 60
 tcacccagac ccgcgccctg cccgtgcccc acgctgctgc taacgacagt atgatgctta 120
 ctctgtact cggaaactat ttttatgtaa ttaatgtatg ctttcttggt tataaatgcc 180
 tgatttaaaa aaaaaaaaaa aa 202

<210> 181
 <211> 558
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(558)
 <223> n = A,T,C or G

```

<400> 181
tccttttkt naggtttkkg agacacccck agacctwaan ctgtgtcaca gaattcynqg      60
aatgttttag cagtgtctagt aatttcytcg taatgattct gttattactt tctnattct      120
ttattcctct ttcttctgaa gattaatgaa gttgaaaatt gaggtggata aatac000000      180
ggtagtgtga tagtataagt atctaagtg0 agatgaaagt gtgttatata tatccattca      240
0aattatgca agttagtaat tactcagggt taactaaatt actttaatat gctgttgaac      300
ctactctgtt ccttggctag aaaaaattat aaacaggact ttgttagttt gggaagccaa      360
attgataata ttctatgttc taaaagttag gctatacata aattattaag aatatggaw      420
ttttattccc aggaatatgg kgttcatttt atgaatatta ccurgggatag awgtwlgagt      480
aaaaycagtt ttggtwaata ygtwaatatg tcmteaataa acaakgcttt gaettatttc      540
caaaaaaaa aaaaaaaa
558

```

```

<210> 182
<211> 479
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(479)
<223> n = A,T,C or G

```

```

<400> 182
acagggtttk grggatgcta agcccccorga rwtggttga tccaacctg gottwttttc      60
agaggggaaa atgggggcta gaagttacag mscatytagy tgggtgcmgt gcacctctg      120
catcacacag aatcccgagt agctgggact acaggcacac agtcaactgaa gcaggccctg      180
ttwgcaattc acgttgccac ctccaactta aacattcttc atatgtgatg tcttagtca      240
ctaaggttaa acttccac ccagaaaagg caacttagat aaaaatuttg agtacttca      300
tactttcta agtctcttc cagctcact kkgagtctm cytgggggtt gtaggaant      360
ntctcttggc ttctcasta aartctctat ycatctcatg tttaatctg tccgcataa      420
awtgatgara aaattnaaat gttctggtty mactttaaaa 000000000 000000000      479

```

```

<210> 183
<211> 384
<212> DNA
<213> Homo sapien

```

```

<400> 183
aggcgggagc agaaagctaaa gccaaagccc aagaagagtg gcagtgcacg cactgggtgac      60
agloccagla ccaataacag tgccagtgcc agtgccagca ccagtgggtg cticagtgc      120
ggtgccagcc tgaccgccac tctcacattt gggctcttcg ctggccttgg tggagctggt      180
gccagcacca gtggcagctc tgggtgcctgt ggtttctcct acaagtgaga ttttagatat      240
tgtaaatcct gccagtcttt ctcttcaagc caggggtgat cctcagaaac ctactcaaca      300
cagcactcta ggcagccact atcaatcaat tgaagttgac actctgcatt aratctattt      360
gccatttcaa aaaaaaaa aaaa
384

```

```

<210> 184
<211> 496
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(496)
<223> n = A,T,C or G

```

```

<400> 184
acugaatttg g0ccgctggc ttataagcga tcatgttynt ccrgtatcac ctcaacgagc      60
agggagelcg agtclatag ctgaagaaat ttgacccgat gggacaacag aactgctcag      120
ccatctctac tgggttctcc ccagatgaca aatactctag acaccgaatc accatcaaga      180
aacgcttcaa ggtgctcatg acccagcaac cgcgcctgt cctctgaggg tcccttaaac      240
tgalgtcttt tctgccacct gttacccctc ggagactccg taaccaaact cttaggactg      300

```

tgagccctga	tgcctttttg	ccagccalac	tccttggcat	ccagtctctc	gtggcgattg	360
attatgcttg	tgtgagggca	tcctgggtgc	ctcaccata	aaagggaacac	atttgaactt	420
ttttctcat	atcttaatt	actacmagaw	tcttwwagaw	aaaaatgawt	gaaaaaactt	480
taaaaaaaaa	aaaaaa					496

<210> 185
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 185						
gctggtagcc	tatggcgkcg	cccacggagg	ggctcttgag	gccacggrac	agtgaacttcc	60
caagtatcyt	gcgcgcgcgc	ttctaccgto	cctacctgca	gatcttcggg	cagattcccc	120
aggaggacat	ggacgtggcc	ctcatggagc	acagcaactg	ytcttcggag	cccggtttct	180
gggcacaccc	tcctggggcc	caggcgggca	cctgcgtctc	ccagtatgcc	aaactggctgg	240
tgggtgctgt	cctcgtcatc	ttcctgctog	tggccaacat	cctgctggtc	aaacttgetca	300
ttgccatgtt	cagttacaca	ttcggcaaa	tacagggcaa	cagcgatctc	tactgggaag	360
ggcgagcgtt	accgcctcat	ccgg				384

<210> 186
 <211> 577
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n - A,T,C or G

<400> 186						
gagttagctc	ctccacaacc	ttgatgaggt	cgctctgcagt	ggcctctctc	ttcataccgc	60
tnccatcgto	atactgtagg	tttgcaccca	cytcctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcaccgtoga	tgaaacctgt	gggctgggtc	tgtcttcgcg	180
tcgggtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgtatgaactt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgcgcttga	mcgtgccgaa	garcacogag	ccttgtgttg	gggkkgaaat	360
ctcaccacga	ttctgcatga	ccagagagcc	gtggcacaag	acattgacaa	actcgccag	420
gtggaaaaag	amcamctcc	ggargtctn	gcagctctc	gtcmgttggt	ggcagcgctw	480
tccttttgac	acacaaacaa	gttaaaaggca	cttccagccc	ccaggaaant	gtcatcatcc	540
aaagtntctc	acagcactna	tcagLLggg	attaaat			577

<210> 187
 <211> 534
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(534)
 <223> n = A,T,C or G

<400> 187						
aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgstg	agaatycatw	60
actkggaaaa	gmuacattaa	agcctggaca	ctggtattaa	aattcacaa	atgcaacact	120
ttazacagtg	tgtcaatctn	ctcccyynac	tttgtcatca	ccagtctggg	aakaagggtta	180
tgccttatte	acccctgtta	aaagggcqct	aaqcatTTTT	gattcaacat	cttttttttt	240
gacacaagtc	cyaaaadaagc	aaaggttaaa	agllatyaat	ttgttagcna	attcacttcc	300
ttcatgggac	agcgccatyt	gatttlaaaa	gcnaattgca	laatatagg	cttyggggagc	360
tgalatttga	gcggaaagagc	agcctttctc	cttcaaccaga	cacaaclccc	tttcatattg	420
ggatgttnac	naaagctwatg	tctctwacag	atgggacgct	tttgaggcaa	ttctgttctg	480
aggclclccc	agtlatttta	ccacttgcac	aagaaggcgt	tttcttctct	aggc	534

<210> 188
 <211> 761
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{761}
 <223> n = A,T,C or G

<400> 188
 agaaaccagt atctctnaaa acaacctctc ataccttggt gacctaatft tgtgtgcgtg 60
 tgtgtgtgcg cgcataattat atagacaggo acatcttttt tactttttgt aagcttatg 120
 cctcttttgt atctatatct gtgaaagttt taatgatctg ccataatgtc ttggggacct 180
 ttgtcttctg tgtaaatggt actagagaaa acacctatnt tatgagtcga totagttngt 240
 ttatttcgac atgaaggaaa ttccuagatn ccaaccclna caaactctcc clkgackarg 300
 ggggacaaag aaaaagcaaaa ctgacacataa caaaccaata cctgggtgga arttgcataa 360
 acagaaatwr gytatgtat tgcarnacag catcatlcaa rmgttwkkt wtctccctt 420
 gcaaaaaaca tgtacngact tcccgttgag laetgccaag ttgttttttt tatnataaaa 480
 cttgccttct attacatgtt tnaaagtggg gtgggtgggc aaatatattg aatgatggaa 540
 ctgactgata aagctgtata aalaagcagt gtgcctaaca agcaaccacg taatgttgac 600
 atgcttaatt ccaaatgtct aatttcatta taaatgtttg ctaaaataca ctttgaaacta 660
 ttttctcgtg tccccagagc tggagatnta gattttatgt agtatnaagt gaaaaantac 720
 gaaalaaafa acattgaaga aaaaananaa aaanaaaaaa a 761

<210> 189
 <211> 482
 <212> UNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{482}
 <223> n = A,T,C or G

<400> 189
 tttttttttt ttgtccgatn ctactatttt attgeaggan gtgggggtgt atgcaccgca 60
 caccgggggt atnagaagca agaaggaagg agggagggca cagccocttg ctgagcaaca 120
 aagccgcctg ctgccttctc tgtctgtctc ctgggtgcagg cacatgggga gaccttcccc 180
 aaggcagggg ccaccagtcc aggggtggga atacaggggg tgggaggtgt gcataagaag 240
 tgataggcac aggccaccgg gtacagaccc ctgggtctct gacaggtnga tttagaccag 300
 gtcattgtgc cctgcccagg cacagcgtan atctggaaaa gacagaatgc ttctcttttc 360
 aaatttggt ngtcatngaa ngggcanntt tccaanttng gctnggtctt ggtacncttg 420
 gtctggccca gctccnctc caaaaantat tcaccnctt ccaaatgtgt tgcnggnucc 480
 cc 482

<210> 190
 <211> 471
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{471}
 <223> n = A,T,C or G

<400> 190
 tttttttttt ttttaaaaca gtttttcaca aaaaaattta ttagaagaat agtggttttg 60
 aaaaactctg catccagtga gaactacat acaccacatt acagctngga atgtncctca 120
 aatgtctggt caaatgatac aatggaacca ttcaatctta cacatgcacg aaagaacaag 180
 cgtttttgac atacaatgca caaaaaaaa aggggggggg gaccacatgg attaaaattt 240
 taagtactca tcacatacat taagacacag ttctagtcca gtcnaaaato agaactgcnt 300

tgaaaaatttt	catgtatgca	atccaaaccaa	agaacttnat	tggatgatcat	gantnctcta	360
ctacatcnac	cttgatcatt	gccagggaacn	aaaagtttaa	ancacncngt	acasasanaa	420
tctgtaattn	anttcacact	ccgtacngaa	aaatnttntt	tatacactcc	c	471

<210> 191
 <211> 402
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(402)
 <223> n = A,T,C or G

<400> 191						
gagggattga	aggtctgttc	tastgtcggm	ctgttcagcc	accaactcta	acaagttgct	60
gtcttccact	cactgtctgt	aagcttttta	accagagcwg	tatcttcala	aataggaaca	120
attcttcacc	agtcacatct	tctaggacot	ttttggattc	agttagtata	agctcttcca	180
cttcctttgt	taagacttca	tctggtanaa	tcttaagttt	lqlaqaagg	aattyaattg	240
ctcgtttctc	aacaatgtcc	tctccttgaa	gtatttgyct	gaacaaccca	cctaaggtcc	300
ctttgtgcat	ccattttaaa	tatacttaat	agggcaltgk	lncactaggt	taatttctgc	360
aagagtcatc	tgtctgcaaa	agttgcgtta	gtatctctgc	ca		402

<210> 192
 <211> 601
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(601)
 <223> n = A,T,C or G

<400> 192						
gagctcggat	ccaataatct	ttgtctgagg	gcagcacaac	LaIncagtc	catggnaact	60
ggtctacccc	acatgggagc	aguntgcugt	agntatataa	ggtnattccc	tgagtcagac	120
atgcytyttt	gaytaccgtg	tqccaaagtgc	kggtgaltct	yaacacacyt	ccatcccgyt	180
ctttctgtga	aaactctggc	cttkctctga	actagcarga	catcacttac	aaattcaacc	240
acgagacact	tgaagggtgt	accaaagcga	ytcttgcat	gottttttgt	cctcoggcac	300
caqbtgtcaa	tactaaccgg	ctggtttgcc	tccatcacat	ttgtgatctg	tagctctgga	360
tacatctcct	gacagtactg	aagaacttct	tcttttgttt	caaaagcacc	toftgggtgc	420
tgllggalca	ggttcccatt	tcccagctryg	aatgttcaca	tggcatattt	waottccacc	480
aaaacattgc	gatttgaggc	tcagcaacag	caaactctgt	tccggcattg	gctgcaagag	540
cttcgatgta	gccggccrag	gccaaaggcag	gcgccttgag	cccacccagc	agcagauyca	600
g						601

<210> 193
 <211> 608
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(608)
 <223> n = A,T,C or G

<400> 193						
atacagccca	natcccacca	cgaagatgcg	cttgttgact	gagaacctga	tgcggtcact	60
ggtcccgtctg	tagtcccagc	gactctccac	ctgctggaag	cggttgatgc	tgcactcytt	120
cccaacgcac	gcagmagcgg	gaccggtcaa	tgaactccay	tctgtgcttg	gggtkgaagg	180
tkaagtgcag	gaagaggctg	accacctcgc	ggtccaccag	gatgcccgac	tgtgcgggac	240
ctgcagcgaa	actcctcgat	ggtcatgagc	gggaagcgaa	tgaggcccag	ggccttgccc	300

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agaacottcc gcoctgttctc tggcgtcacc tgcagctgct gccgctgaca ctgggcctcg      360
gaccagcgga caaaoggcrt tgaacagccg caccctcagc atgcccagtg tgtcgcgctc      420
caggammgac accagcgtgt ccaggtcaat gtccgtgaaq cccctccgcg gtatggtggt      480
ctgcagtgtt tttgtcgatg ttctccagge acaggtctgg cagclgcggc tcatcgaaga      540
gtcgcgcctg cgtgagcagc atgaaggcgt tglcggcclg cagttcttct tcagggaactc      600
cacgcaat                                         608

```

```

<210> 194
<211> 392
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(392)
<223> n = A,T,C or G

```

```

<400> 194
gaacggctgg acccttgctc gcatttgtct tgcctggcagg gaataccttg gcaagcagyt      60
ccagtcaggag cagcccccaga ccgctgcgcg ccgaagctaa gcctgectct ggccctcccc      120
tccgectcaa tgcagaacca gtagtgggag cactgtgttt agagttaaga gtgaacactg      180
tttgatttta cttgggaatt tccctctgtta tatagctttt cccaatgcta atttccauac      240
aacaacaaca aaataacatg tttgcctgtt aagttgtata aaagtagggtg attctgtatt      300
taaagaaaat attactgtta catatactgc ttgcaatttc tgtatttatt gktnctstgg      360
aaataaatat agttattaaa ggttgtcant cc                                         392

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```

<210> 195
<211> 502
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(502)
<223> n = A,T,C or G

```

```

<400> 195
ccatttkgagg ggtkaggkyc cagttycoga gtggaagaaa caggccaggc gaaqtgcqtc      60
ccgagctgag gcagatgttc ccacagtgac cccuagagcc slgggstata gtytctgccc      120
ccctncaagg aaagaccacs ttctggggac atgggclqqa gggcaggacc lagaggcacc      180
aagggaaggc cccattccgg ggstgttccc cggggaggga ggggaaggggc tctgtgtgcc      240
ccccagaggg aagaggccct ggtccctggg atcagacacc ccttcacgtg tatccccaca      300
caaatgcaag ctacccaagg tcccclctc gtcccttcc stacaccctg amcgggccact      360
gscscacacc caccagaguc acgcccaccg ccctggggar tgtgctcaag gartcgcnng      420
gcacgctgga cctctngtcc cagaaggggg cagaatctcc aatagangga ctgarcmtt      480
gctnnaaaaa aaaaaaasaaa aa                                         502

```

```

<210> 196
<211> 665
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(665)
<223> n = A,T,C or G

```

```

<400> 196
ggttactttg tttcattgac accactttag ggatgtcalt tagaaccatt lctgtctgctc      60
cctctggaag ccttgccgag agcggaactt gtaattgttg gagaataact gctgaatttt      120
wagctgtttk gagttgatts gcaccactgc acccacaact tcaatatga aacyawttga      180
actwaatttat tatcttgtga aaygtataac aatgaaaatt ttgttcatac tgtattkac      240

```

aagtatgatg	aaaagcaawa	gatatatatt	cttttattat	gttaaattat	gattgocatt	300
attaatcggc	aaaatgtgga	gtgtatgttc	ttttcacagt	aatatatgoc	ttttgtaact	360
tcacttggtt	attttattgt	aatgaritta	caaatctctt	aatttaagar	aatggatgtt	420
watatttatt	tcattaattt	ctttcctkgt	ttacgtwaat	tttgaaaaga	wtgcatgatt	480
tcttgacaga	aatcgatctt	gatgctgtgg	aagtatgttg	acccacatcc	ctatgagttt	540
ttcttagaat	gtataaaggt	tgtagcccat	cnaacttcaa	agaaaaaat	gaccacatac	600
tttgcaatca	ggctgaaatg	tggcatgctn	ttctaattcc	aactttataa	actagcaaan	660
aagtg						665

<210> 197

<211> 492

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(492)

<223> n = A,T,C or G

<400> 197

tttnttllt	ttttttttgc	aggaaggatt	ccatttattg	tggatgcatt	ttcacaatat	60
atgtttattg	gagcgatcca	ttatcagtga	aaagtatcaa	gtgtttataa	natttttagg	120
aaggcagatt	cacagaacat	gctngtcngc	ttgcagtttt	acctcgtana	gatnacagag	180
aattatagtc	naaccagtaa	acnaggaatt	tacttttcaa	aagattaaat	ccaaactgaa	240
caaaattcta	ccctgaaact	tactccatcc	aaatattgga	ataanagtca	gcagtgatac	300
attctcttct	gaactttaga	ttttctagaa	aaatatgtaa	tagtgatcag	gaagagctct	360
tgttcaaaaag	tacaacnaag	caatgttccc	ttaccatagg	cottaattca	aactttgata	420
catttcactc	ccatcacggg	agtcaatgct	acctgggaca	cttgtatttt	gttcatnctg	480
ancntggctt	aa					492

<210> 198

<211> 478

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(478)

<223> n = A,T,C or G

<400> 198

tttnttttgn	atttcantct	gtannaanta	ttttcattat	gtttattana	aaaatatnaa	60
tgtntccacn	acaaatcatn	ttacntnagt	aagaggccan	ctacattgta	caacatacac	120
tgagtatatt	ttgaaaagga	caagttttaa	gtanaencat	attgcccanc	atanacattt	180
tatacatggc	ttgattgata	tttagcaceq	canaaactga	gtgagttacc	agaaanaaal	240
natatatgtc	aatcngattt	aaqatocaaa	acagatcctc	tggtacatan	catctgtag	300
gagttgtggc	l.ltalgttta	ctgaaagtca	atgcagttcc	tgtacaaaga	galggccgta	360
agcattctag	tacctctact	ccatggttta	gaatcgtaca	cttatgttta	catatgttca	420
gggtaaagaa	tgtglaaagt	naanttatgg	agaggtccan	gagaaaaatt	tgatncaa	478

<210> 199

<211> 482

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(482)

<223> n = A,T,C or G

<400> 199

agtgacttgt	cttccaaaca	aaaccttga	tcaagtttgt	ggcactgaca	atcagacctt	60
------------	------------	-----------	------------	------------	------------	----

tgcctagttcc	tgtcatctat	tcgtactaa	atgcagactg	gaggggaccg	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaactctatt	cctacttgta	cggactttga	180
agtgattcag	tttcctctac	ggatgagaga	ctggctcaag	aatatcctca	tgcagcttta	240
tgaagccnac	tctgaacacg	ctggttatct	nagatgagaa	ncagagaaat	aaagtcnaga	300
aaatttacct	ggangaaaag	aggctttngg	ctggggacca	tccattgaa	ccttctctta	360
anggacttta	agaanaaaact	accacatgtn	tgtngtatcc	tgggtgccnqg	ccgtttantg	420
asctnngaen	ncaccttnt	ggaatanant	cttgacngcn	tcttgaactt	gctcctctgc	480
ga						482

<210> 200
 <211> 270
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}... (270)
 <223> n = A, T, C or G

cggcgcgaag	tgaactcca	gctggggccg	tgcggagcaa	gattctgcca	gcagttggtc	60
cgactgagac	gacggcgccg	gcgacagtcg	caggtgcagc	gcgggcgcct	ggggtcttgc	120
aaagctgagc	tgacgcgcga	gaggtcgtgt	cacgtccca	gaccttgacg	ccgtcgggga	180
cagccgggac	agaagcccggt	gaagccggga	ggcctcgggg	agcccctcgg	gaagggcgcc	240
ccagagagata	cgcaggtgca	ggtggccgcc				270

<210> 201
 <211> 419
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}... (419)
 <223> n = A, T, C or G

tttttttttt	ttttggaatc	tactgcgagc	acagcaggc	agcaacaaat	ttatttttgc	60
gctagcaagg	taacagggtg	gggcatgggt	acatgttnag	gtcaacttcc	tttgccgagg	120
ttgattgggt	tgtctttatg	ggggcggggt	ggggtagggg	aaanccgaagc	anaantaaac	180
tggagtgggt	gcacccctcc	tgtagaacct	ggttacnaaa	gcttggggga	gttcacctgg	240
tctgtgacgc	tatttttctt	gacatcaatg	ttattagaag	tcaggatata	tttttagagag	300
tccactgtnt	ctggaggag	attagggttt	cttgccaana	tccaancaa	atccacttga	360
aaaagtggga	tgaatncangt	acngaatacc	ganggcatan	ttctcatant	cggtggcca	419

<210> 202
 <211> 509
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}... (509)
 <223> n = A, T, C or G

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggacattaa	tccattttta	tttcaaaatg	tctacaaant	tttaetnenc	cattatacng	120
gtnatTTTTT	aaaatctaaa	nnttattcaa	atntnagcra	aentctttac	ncaaatonaa	180
tacnncnaaa	aatcaaaaat	atactntct	ttcagcaaac	ttngttacat	aaettaaaaa	240
aatatatacg	gctgggtgtt	tcaaaatata	attatcttaa	cactgcaaac	atnttttnaa	300
ggaactaaaa	taaaaaaaa	cactnccgca	aaggttaaag	ggaacaacaa	attcttttta	360


```

caacancnnc nattataaaa atcatatctc aaatcttagg ggaatctata cttcacacng 420
ggatcttaac ttttactnca ctttgtttat ttttttanaa ccattgtntt gggcccaaca 480
caatggnaat nccnccnccn tggactagt 509

```

```

<210> 203
<211> 583
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(583)
<223> n = A,T,C or G

```

```

<400> 203
tttltttttt ttttttttga cccccctctt ataaaaaaca agttaccatt ttatitttact 60
tacacatatt tattttataa ttggtattag atattcaaaa ggcagctttt aaaatcaaac 120
taaattgaaa ctgccttaga tacataattc ttaggaatta gcttaaaatc tgcctaaagt 180
gaaaatcttc tctagctctt ttgactgtaa atttttgact cttgtaaaac atccaaattc 240
attttttctg tctttaaaaa tatctaattc ttccattttt cccctattcc aagtcaattt 300
gtttctctag cctcaatttc tagctcttat ctactattag taagtggctt ttttctaaa 360
agggaaaaaa ggaagagana atggcacaca aaacaaacat ttttatattc tatttctacc 420
tacgttaata aaatagcatt ttgtgaagcc agctcaaaag aaggcttaga tctttttatg 480
tccatttttag tcaactaaacg atatcnaaag tgccagaatg caaaaaggtt gtgacattt 540
attcaaaagc taatataaga tatttcavat ctcacatctt ctg 583

```

```

<210> 204
<211> 589
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(589)
<223> n = A,T,C or G

```

```

<400> 204
ttttttttnt tttttttttt ttttttnctc ttcttttttt ttganaatga ggcctcaggt 60
tttcaactctc tagatagggc atqagaaaaa clcalcltcc cagcttctaa akaacaatca 120
aatctcttat gctatctctc attlttaaglt aaactaatga glcactggct tatcttctcc 180
tgaaggaaat ctgttcaatc ttctcattca tatagtlala tcaagtacta ccttgcatat 240
tgagaggltt tctctctcta tttcacacaa tatttccatg tgaatttgta tcaaaccttt 300
attltcaatgc aaactagaaa ataattgntt cttttgcata agagaagaga acaatatnag 360
cattccaaaa ctgctcaaat tgtttgttaa gnttatccat tataattagt tnggcaggag 420
ctaatecaaa tcacattttac ngacnagcaa taataaaact gaagtaccag ttaaatatcc 480
aaaateatta aaggaacatt tttagcctgg gtataattag ctaattcact ttacaagcat 540
ttattnagaa tgaattcaca tgttattatt cctagcccca acacaatgg 589

```

```

<210> 205
<211> 545
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(545)
<223> n = A,T,C or G

```

```

<400> 205
tttttttttt ttttttcaat aataatcaaa acaatatctt tttttatatt caaaatllcat 60
agaaaggtgc ctacattta ataaaagttt gltctctaaa gtgatcagag gaattagata 120
tngtcttqaa ccccaattt aatttgagga aaataacca aatatatta agtaaatat 180

```

ttaagatcat	agagcttgta	agtgaanaaga	taaaatttga	cctcagaaac	tctgagcatt	240
asaaatccac	tattagcaaa	taaattacta	tggacttctt	gcttttattt	tgtgatgaat	300
atgggggtgc	actggtaaac	caacacattc	tgaagggtac	attacttagt	gatagattct	360
tatgtacttt	gctanatnac	gtggatatga	gttgacaaagt	ttctctttct	tcaatctttt	420
aagggggcga	ngaaatgagg	aagaaaaaga	aagggttaag	catactgttc	tttctatngg	480
aaggattaga	tatgttttct	ttgccaatat	taaaaaaala	ataatgttta	ctactagtga	540
aaccc						545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt	tttttagtc	aagttttctna	tttttattat	aattaaagtc	ttggtcattt	60
catttattag	ctctgcaact	tacatattta	aattaaagaa	acgttnttag	acaactgtna	120
caatttataa	atgtaagggtg	ccattattga	gtanatatat	tcctccaaga	gtggatgtgt	180
cccttctccc	accaactaat	gaancagcaa	cattagttta	attttattag	tagalnatac	240
actgctgcaa	apgtcaattc	tcttctccat	ccccatgtng	atattglgtg	latgtgtgag	300
ttggtnagaa	tgcacanca	atctnacaat	caacagcaag	alqaagctag	gcntgggctt	360
tcggtgaaaa	tagactgtgt	ctgtctgaat	caaatgatct	gacctatcct	cggtggaag	420
aactcttcga	accgttctct	caaaggcngc	tgcacatttt	gtggcctctn	ttgcacttgt	480
ttcaaaa						487

<210> 207

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 207

tgaattggct	aaagactgc	atttttanaa	ctagcaactc	ttatttcttt	ccttttaaaaa	60
tacatagcat	taaatcccaa	atcctattta	aagacctgac	agcttgagaa	ggctactact	120
gcatttatag	gacctctctg	tggttctgct	gttacttttg	aantctgaca	atccttgana	180
atcttlqcat	gcagaggagg	taaaagggtat	tggattttca	cagagggaana	acacagcgca	240
gaaatgaagg	ggccaggctt	actgagcttg	tcacttgag	ggctcatggg	tgggacatgg	300
aaaagaaggc	agcctaggcc	ctggggagcc	ca			332

<210> 208

<211> 524

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(524)

<223> n = A,T,C or G

<400> 208

agggcggtgt	ggggagggcg	ttactqltll	gtctnagtaa	caataaatat	aaaaagactg	60
gttggtgtcc	ggccccctcc	aaccacggaag	ttgatttctc	ttgtgtgcag	agtgactgat	120
tttaaaaggac	atggagcttg	tcacaatgtc	acaatgtcac	agtgtgaagg	gcacactcac	180
tccgcgqlqa	ttcacattta	gcaaccacaa	atagctcatg	agtcctact	tgtaaatact	240

tttggcagaa	tacttnttga	aaattgcaga	tgataactaa	gatccaagat	atttcccaaa	300
gtaaatagaa	gtgggtcata	atattaatta	ccgtgttcaca	tcagcttcca	tttacaagtc	360
atgagccacg	acactgacat	caaaactaagc	ccacttagac	tcctcaccac	cagtctgtcc	420
tgatcatcaga	caggaggctg	tcaccttgac	caaattctca	ccagtcaatc	atctatccaa	480
aaaccattac	ctgatccact	tccggtaatg	caccacettg	giga		524

<210> 209
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 209	
gggtgaggaa	atccagaggt gccatggaga
tgccctctc	ctacactctg gccagagata
caaaaggactc	tcgacccaaa ctgcccaga
	ccctctcca
	60
	120
	159

<210> 210
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(256)
 <223> n = A,T,C or G

<400> 210	
actccctggc	agacaaaaggc agagcagaga
actgaalilo	tttccacttg gactattaca
tgggagagall	ttanccaatl tangtntgta
ttgcagggtg	naaatgggan ggctgggttg
ccaggatgct	aatca
	60
	120
	180
	240
	256

<210> 211
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(264)
 <223> n = A,T,C or G

<400> 211	
acattgtttt	tttgagataa agcattgaga
actggaacac	atacccacat ctttgttctg
atattcaagc	acatatgtta tatattattc
ggggagatac	attongaaag aggactgaaa
aaaaaaggag	caaatgagaa gcct
	60
	120
	180
	240
	264

<210> 212
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 212	
acccaasaaat	cnaatgetga atatttggct
	tcattattcc cnaattcttt
	galtgloaaa
	60

ggatttaatg	ttgtctcagc	ttgggcactt	cagttaggac	ctaaggatgc	cagccggcag	120
gtttatatat	gcagcaacaa	tattcaagcg	cgacaacagg	ttattgaact	tgcccgccag	180
ttnaatttca	ttcccatiga	cttgggafcc	ttatcatcag	ccagagagat	tgaaaattta	240
ccoctacnac	tctttactct	ctgganaggg	ccagtgggtg	tagctataag	cttggccaca	300
tttttttttc	ctttattcct	ttgtcaga				328

<210> 213

<211> 250

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(250)

<223> n = A,T,C or G

<400> 213

acttatgagc	agagcgacat	atccnagtgt	agactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acatttcaat	tctccaaact	tcttctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataanc	catgttaana	aacaaatata	tctctnacct	240
tctcatcggt						250

<210> 214

<211> 444

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(444)

<223> n = A,T,C or G

<400> 214

accagaatc	caatgctgaa	tatttggett	cattattccc	agattctttg	attgtcaaaq	60
gatttaatgt	tgtctcagct	tgggcacttc	agttaggacc	taaggatgcc	agccggcagg	120
tttatatatg	cagcaacaat	attcaagcgc	gacaacagg	tattgaactt	gcccggccagt	180
tgaatttcac	tcccattgac	ttgggatcct	tatcatcagc	canagagatt	gaaaatttac	240
ccctacgact	ctttactctc	tggagagggc	cagtgggtgt	agctataagc	ttggccacat	300
ttttttttcc	ttttattcct	tgtagagat	gcgattcctc	catatgctan	aaaccaacag	360
agtgactttt	acaaaattcc	tataganatt	gtgaataaaa	ccttacctat	agttgccatt	420
actttgctct	ccctaatata	cctc				444

<210> 215

<211> 366

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(366)

<223> n = A,T,C or G

<400> 215

acttatgagc	agagcgacat	atccaagtgt	anactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acatttcaat	tctccaaact	tcttctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataagc	catgttgaga	aacaaatata	tctctgacct	240
tctcatcggt	aagcagaggc	tgtaggcaac	atggaccata	gogaanaaaa	aacttagtaa	300
tccaagctgt	tttctacact	gtaaccagg	ttccaaccaa	ggtggaaate	tcttataact	360
ggtgcc						366

<210> 216
 <211> 260
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(260)
 <223> n = A,T,C or G

<400> 216
 ctgtataaac agaactccac tgcangaggg agggccgggc caggagaatc tccgcttctc 60
 caagacaggg guctaaggag ggtctccaca ctgclnntaa gggctnttc atttctttat 120
 taataaaaaa tnnaaaaagg ctcttclcaa cttttttccc ttinggckgga aaatttaaaa 180
 atcaaaaatt tectnaagtl ntpaagctat catctatacl ntatcctgaa aaagcaacat 240
 aatctctcct tccctccttt 260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(262)
 <223> n = A,T,C or G

<400> 217
 aactacgtgg gtaagtttan aaatgttata atttcaggaa naggaacgca tataattgta 60
 tottgctctt aattttctct tttcataagg aatttcgcaa ttgggggtgg gggaaagtag 120
 ggccttctac agtttgagca aattgcattt aaatgtggaa ggacagcact gaasaatttt 180
 atgaataatc tglatgattt tctgctctct gagtagattt ataattagcc aattacccta 240
 atatctttca tgcttgtaaa gt 262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(205)
 <223> n = A,T,C or G

<400> 218
 aaccaaggtg tgcattaccg gaantggatc aangacacca tcttgggcaa cccctgagca 60
 cccclatcaa ctcccttttg taglaaactt ggaaccttgg aattgaccag gccaaagactc 120
 aggcctccc agttctactg acctttgtcc ttangntna nglccagggt tgctaggaaa 180
 anaaatcagc agacacaggt gtaaa 205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219
 tactgttttg tctcagtaac aataaataca aaaagactgg ttgtgttccg gccccatcca 60
 accacgaagt tgattctct tgtgtgcaga gtgactgatt ttaaaggaca tggg 114

<210> 220
 <211> 93
 <212> DNA

<213> Homo sapien

<400> 220

actagccagc acaaaaggca gggtagcctg aattgctttc tgccttttac atttccttta 60
aaataagcat ttagtgctca gtccctactg agt 93

<210> 221

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 221

actangtgca ggtgcgcaca aatatttgtc gatattccct tcatcttga ttccatgagg 60
tcttttgccc agcctgtggc tctactgtag taagtttctg ctgatgagga gccagnatgc 120
ccccactac cttccctgac gtcccccana aatcacccaa cctctgt 167

<210> 222

<211> 351

<212> DNA

<213> Homo sapien

<400> 222

agggcgtggt gcggaggggc gtactgacct cattagtagg aggatgcatt ctggcaccoc 60
gttcttcacc tgtcccccaa tccftaaaaq gccatcttgc ataaagtcas caacagctaa 120
atgtttgctg nattaAagga tggatgseaa saettaataa tgeaLktttg cataatccaa 180
ttttctcttt tatatttcta gaagaagttt ctttgagcct attagatccc gggaaatcttt 240
taggtgagca tgattagaga gcttgtaggt tgcrtttaca tatatctggc atatttgagt 300
ctcgtatcaa aacaatagat tggtaaagggt ggtattattg tattgataag t 351

<210> 223

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 223

aaaaCaaacC aacaaaaaaa acaattcttc attcagaaaa attatcttag ggactgatat 60
tygtaALlet ggtcaattta atwrtxttkk ggggcatttc cttacattgt cttgcaaga 120
ttaaaatgtc tgtgocaaaa ttttgtattt tatttggaga cttcttatca aaagtaatgc 180
lgccaaagga agtctaagga attagtagtg ttcccmteac ttgtttggag tgtgctatic 240
taaaagattt tgatttcoctg gaatgacaat tatattttaa ctttgggtggg ggaaanagtt 300
ataggaccac agtcttcaact totgatactt gtaaattaat cttttattgc acttgttttg 360
accattaagc tatatgttta aaa 383

<210> 224

<211> 320

<212> DNA

<213> Homo sapien

<400> 224

ccctgaagg cttcttgta gazaatagta cagttacaac caatgggac sacaaaaaga 60
aaaagtgtgt gacattgtag tagggagtgt gtaoccutta ctccccatca aaaaaaaat 120
ggatacatgg ttaaggata raagggaat atillatcat atgltctaaa agagaagga 180

gagaaatatac	tacttttctc	aatatggaagc	ccttaaagggt	gcttttgatac	tgaaggacac	240
aatatgtggcc	gtccatctctc	ccttaraggt	gcatacacttg	gcacacggtaa	ctgttgcaat	300
tttaractcm	gcattgtgac					320

<210> 225
 <211> 1214
 <212> DNA
 <213> Homo sapien

<400> 225						
gaggactgca	gcacgcactc	gcagccctgg	caggccggcac	tggtcatgga	aaacgaattg	60
ttctgctcgg	gcgtcctggg	gcataccgag	tggtgtctgt	cagccgcaca	ctgtttccag	120
aactcctaca	ccatcgggct	gggcttgca	agtccttgagg	ccgaccaaga	gccagggagc	180
cagatgggtg	agggcagcct	ctccgtacgg	cacccagagt	acaacagacc	cttgctcgct	240
aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	agtctgacac	catccggagc	300
atcagcattg	cttcgcagtg	ccctaccggg	gggaactctt	gcctcgtttc	tggttggggt	360
ctgctggcga	acggcagaaat	gcctaccgtg	ctgcagtgcg	tgaacgtgtc	gggtggtgtc	420
gaggaggtct	gcagtaagct	ctatgacccg	ctgtaccacc	ccagcatgtt	ctgcgcgggc	480
ggaggggcaag	accagaagga	ctcctgcaac	gggtgactctg	gggggccccct	gatctgcaac	540
gggtacttgc	agggccttgc	gtctttcgga	aaagccccgt	gtggccaagt	tggtgtgcca	600
gggtgtctaca	ccaaacctctg	caaatctact	gagtggatag	agaaaaacct	ccaggccagt	660
taactctggg	gactgggaac	ccatgaaatt	gacccccaaa	tacatcctgc	ggaaggaaat	720
caggaatatc	tgttccacgc	ccctcctccc	tccggccacg	gagtccaggc	ccccagcccc	780
tcctccctca	aaaccaagggt	acagatcccc	agccccctct	ccctcagacc	caggagtcca	840
gacccccag	ccctcctcc	ctcagaccca	ggagtccagc	ccctcctccc	tcagacccag	900
gagtccagac	ccccccagccc	ctcctcctcc	agaccccagg	gtccaggccc	ccaaacccctc	960
ctcctccaga	ctcagaggtc	caagccccc	acccctcctt	ccccagaccc	agagggtccag	1020
gtcccaaccc	ctcctcctcc	agacccacgc	gtccaatgcc	acctagactc	tcctcttaca	1080
cagtgcctcc	ttgtggcaag	lgaacccac	cttaccaggt	ggtttttcat	tttttgctcc	1140
tttcccttag	alccagaat	aaagtctaa	agaagccgca	aaaaaaasaa	aaaaaaasaa	1200
aaaaaaasaa	aaaa					1214

<210> 226
 <211> 119
 <212> DNA
 <213> Homo sapien

<400> 226						
accuagtatg	tgacgqaga	cggaaacccc	tgtagacgac	cactccacca	gggttcccaa	60
agaacclggc	ccagtcataa	tcattoactc	tgacagtgga	aataactcaag	alaacccgt	119

<210> 227
 <211> 818
 <212> DNA
 <213> Homo sapien

<400> 227						
acaattcata	gggaacgaca	atgaggacag	ggaatgaacc	cggtctctcc	ccagccctga	60
tttttgctac	atatgggggc	ccttttcat	ctttgcaaaa	acactgggtt	ttctgagaac	120
acggagcgtt	cttagcaca	tttgtgaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttctcc	ctctggagga	aaggtgggtg	ttgacagga	gggagacagt	gacaaggcta	240
gagaaagcca	cgctcggcct	tctctgaacc	aggatggaac	ggcagacccc	tgaanaacgaa	300
gcttgtcccc	ttccaatcag	ccacttctga	gaacccccat	ctaacttctc	actggaaaag	360
agggcctcct	caggagcagt	ccaagagttt	tcaaaagata	cgtgacaact	accatctaga	420
ggaaagggtg	ccccctcagc	agagaagccc	agagcttanc	tctggtcgtt	tcagagaca	480
acctgctggc	tgctctggga	tgcccccagc	ctttgagagg	ccactacccc	atgaacttct	540
gcaatccact	ggauatgaag	ctgagggaca	tggtcttcaa	caactgaqct	tcagagagg	600
gacaggctct	gcccctcaagc	gggclgaggg	cagcaaccc	ctcctcctcc	lctctcagcc	660
aaagcuatcc	ccacaalcc	agacatatac	atgagggcac	gagaccccaa	cagtllygct	720
caagagqala	tgaggactgt	ctcagcctgg	ctttgggctg	acacccatgca	cacacacaaq	780
gtccacttct	aggttttcag	cctagatggg	agtcgtgt			818

<210> 228
 <211> 744
 <212> DNA
 <213> Homo sapien

<400> 228
 actggagaca ctgttgaact tgatcaagac ccagaccabc ccaggtctcc ttctgtggat 60
 gtcatgaagt ttgacatacc tttggaacga gcctcctcct tggagatgg aagaccgtgt 120
 tctgtggcga cctggcctct cctggcctgt ttcttaagat gaggagtcac atttcaatgg 180
 taggaasagt ggcttcgtaa aatagaagag cagtcactgt ggaactacca aatggcgaga 240
 tctcgggtgc acattggggg gctttgggat aaaagattta tgagccaact attctctggc 300
 accagattct aggcacagtt gttccactga agcttttccc acagcagtc accctctgcag 360
 gctggcagct gaatggcttg ccggtggctc tgtggcaaga tcacactgag atcagtgagt 420
 gagaaggcta ggatgcttgt ctagtgttct tagctgtcac gttggctcct tccaggttgg 480
 ccagacgggtg ttggccaact ccttctazaa cacaggcgcc ctctgtgtga cagtgaacccg 540
 ccgtggtatg ccttggccca ttccaycagt cccagttatg catkccagt ttggggcttg 600
 ttcttttctg taatgttctc ctgtgllgtc agctgtcttc alltcttggg ctacgcagca 660
 ttgggagatg tggccagag atccactcct taagaccag tggcgaaaga cactttcttt 720
 ctccactctg aagtagctgg tggc 744

<210> 229
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 229
 cgagtctggg tttgtctat aaagtttgat cctcctttt ctcatccaaa tcatgtgaac 60
 cattacacat cgaataaaaa gaaggtggc agacttgcac aacggcagge tgacatgtc 120
 tgcagggttg ttgttttta attattattg ttgaaacgt caccacacag cctgttaat 180
 ttgtatgtga cagccaactc tgagaaggct ctatttttcc cctgcagag gctccagct 240
 cactaggctc ctcttgcac tcacactgga gtctccgcca gtgtgggtgc ccacigarat 300

<210> 230
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 230
 cagcagaaca aatacaata tgaagagtgc aaagatctca taaaatctat gctgaggaat 60
 gagcgacagt tcaaggagga gaagcttgca gagcagctca agcaagctga ggagctcagg 120
 caatataaag tctgtgttca cactcaggaa cgagagctga ccagtttaag ggagaagttg 180
 cgggaaggga gagatgcctc cctctcattg aatgagcctc tccaggccct cctcactccg 240
 gatgaaccgg acaagtcoca ggggcaggac ctccaagaaa cagacctcgg ccgcgaccac 300
 g 301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231
 gcaagcacgc tggcaaatct clqtcaggct agctccagag aagccattag tcatttttagc 60
 caggaaactcc aagtcacat ccttggcaac tggggacttg cgcaggttag ccttgaggat 120
 ggcacacag gacttctcat caggaaagtg gatgtagat agctgatcaa gacggccagg 180
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggta ccgccaatga tgaacacatt 240
 Lttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcagc 300
 c 301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232

agtaggtatt	tctgtagaag	ttcaacacaa	aaactggaac	atagttctcc	ttcaagtgtt	60
ggcgacagcg	gggttctctg	attctggaat	ataactttgt	gtaaattaac	agccacctat	120
agaagagtcc	atctgtctgt	aaggagagac	agagaactct	gggttccgtc	gtcctgtcca	180
cgtgtctgtac	caagtgtctg	tgccagcctg	ttacctgttc	tcactgaaaa	tctggctaatt	240
gctcttgtgt	atcaattctg	attctgacaa	tcaatcaatc	aatggcctag	agcaactgact	300
g						301

<210> 233

<211> 301

<212> DNA

<213> Homo sapien

<400> 233

atgactgact	tccnagtaag	gctctcttaag	gggttaagtaq	gaggatccac	aggacttgag	60
atgcttaaggc	cccagagatc	gtttgatcca	acctctctat	tttcagaggg	gaaatgggg	120
notagaagtt	acagagcacc	tagctggctg	gctggcacc	ctggcctcac	acagactccc	180
gagtagctgg	gactacaggg	acacagtcac	tgaagcaggg	cctgttagca	attctatgog	240
tacaaattaa	catgagatga	gtagagactt	tattgagaaa	gcaagagaaa	atcctatcaa	300
c						301

<210> 234

<211> 301

<212> DNA

<213> Homo sapien

<400> 234

aggctctaca	catogagact	catccatgat	tgatatgaat	ttaaaaatta	caagcaanga	60
cattttcttc	atcagatgc	ttctllllyl	ttctctlll	cgllllcLLl	LLlllcllll	120
tcactllcag	caacatactt	ctcaalltct	tcaggattta	aaactctgag	ggattgatct	180
ngcctcatga	caagcaagttc	aatgtttttg	ccacctgact	gaacctctc	caggagtgcc	240
ttgatcacca	gcttaatggt	cagatcatct	gcttcaatgg	cttcgtcagt	atagttcttc	300
t						301

<210> 235

<211> 283

<212> DNA

<213> Homo sapien

<400> 235

tggggctgtg	catcaggcgg	gtttgagaaa	tattcaattc	tcagcagag	ccagaatttt	60
aattccctca	tcttttaggg	aatcattttc	cagggttggg	gaggattcag	acagctcagg	120
tgttttcact	aatgtctctg	aacttctgtc	cctctttgtl	catggatagt	ccactaactc	180
atgttatctt	tgaactgatq	ctcataggag	agaatatag	aaclctgagt	gahatcaaca	240
ttagggtatc	aaagaaatat	cagallctaa	ctcacactgg	tca		283

<210> 236

<211> 301

<212> DNA

<213> Homo sapien

<400> 236

aggctcctca	ccaactgact	gaagcacggg	taaaattggg	aagaagtata	gtgcagcata	60
aatactttta	aatogactag	atttccctaa	cccacatgca	atcttcttca	ccagaagagg	120
toggagcagc	atcattaata	ccaagcagaa	tgcgtaatag	ataaatacaa	tggatataag	180
tgggtagacg	gcttcatgag	tacagtgtac	tgtggtatcg	taatctggac	ttgggttgta	240
aagcatcgtg	taccagtcag	aaagcatcaa	tactogacat	gaacgaatat	aaagaacacc	300
a						301

<210> 237

<211> 301

<212> DNA

<213> Homo sapien

<400> 237

cagtggtagt	ggtgggtggac	gtggcggttg	tgtggtgccc	ttttttggtg	cccgtcacaa	60
actcaatttt	tgttcgctcc	tttttggcct	tttcccaattt	gtccatctca	attttctggg	120
ccttggctaa	tgccctcatag	taggaagtcc	cagaccagcc	atggggatca	aacatatact	180
ttgggtagtt	ggtgccaagc	tgtccaatgg	cacagaatgg	atcagcttct	cgtaaatcta	240
gggttcggaa	attctttctt	cctttggata	algtagttcn	tatccattcc	ctcctttatc	300
t						301

<210> 238

<211> 301

<212> DNA

<213> Homo sapien

<400> 238

gggcaggttt	tttttttttt	ttttttgatg	gtgcagaccc	ttgctttatt	tgtctgactt	60
gttcacagtt	cagccrccctg	ctcagaaaaac	caacggggcca	gctaaggaga	ggaggaggca	120
ccttgagact	tccggagtcg	aggctctcca	gggttcccca	gcccatcaat	cattttctgc	180
accccttgc	tgggaagcag	ctccctgggg	ggtgggaatg	ggtgactaga	agggatttca	240
gtgtgggacc	cagggtctgt	tcttcacagt	aggagggtga	agggatgact	aattttctta	300
t						301

<210> 239

<211> 239

<212> DNA

<213> Homo sapien

<400> 239

ALAagcagct	aggggaattct	ttatttagta	atgtcctaac	ataaaaagttc	acataactgc	60
ttctgtcaca	ccatgatctt	gagctttgtg	acaaccacga	aataactaag	agaaggcaca	120
cataatacct	tagagatcaa	gaaacattta	cacagttcaa	ctgttttaaaa	atagctcaac	180
attcagccag	tgagttagagt	gtgaatgcc	gcatacacag	tatacaggtc	cttcaggga	239

<210> 240

<211> 300

<212> DNA

<213> Homo sapien

<400> 240

ggtcccaatg	nagcagcagc	ttccacattt	taacgcaggt	ttacgggtgat	actgtccttt	60
gggatctgcc	ctccagtgg	accttttaag	gaagaagtgg	gcccagagta	agttccacat	120
gctgggtgag	ccagatgact	tctgttccct	gglcacttct	ttcattgggg	cgaalggggg	180
ctgcaggtt	tttaaaatca	tgttccatct	tgaagcacac	ggtcacttca	ccctcctcac	240
gctglgggtg	tactttgatg	aaaataccca	ccttgttggc	ctttctgaag	ctataatgtc	300

<210> 241

<211> 301

<212> DNA

<213> Homo sapien

<400> 241

gaggtctggt	gctgaggtct	ctgggctagg	aagaggagtt	ctgtggagct	ggaagccaga	60
cctcttttga	ggaaactcca	gcagctatgt	tgggtgtctct	gaggggaatgc	aacaaggctg	120
ctccctccatg	tattggaaaa	ctgcaaaactg	gactcaactg	gaagggaagtg	ctgctgccag	180
tgtgaagaac	cagcctgagg	tgcagaaac	ggaagcaaac	aggaacagcc	agctctttct	240
tcctcctct	gtcatacggg	ctctctcaag	catcctttgt	tgtcaggggc	ctaaaaggga	300
g						301

<210> 242

<211> 301

<212> DNA

<213> Homo sapien

<400> 242

ccgagggtcct	gggatgcaac	caatcaactct	gtttcaogtg	acttttatca	ccatacaatt	60
tgtggcattt	cctcattttc	tacattgtag	aatcaagagt	gtaaataaat	gtatatcgat	120
gtcttcaaga	atataicatt	cctttttcac	tagaaccat	tcaaatata	agtcaagaat	180
cttaatatca	acaaatata	caagcaact	ggaaggcaga	ataactacca	taatttagta	240
taagtacca	aagttttata	aatcaaaagc	cctaattgata	accattttta	gaattcaatc	300
a						301

<210> 243

<211> 301

<212> DNA

<213> Homo sapien

<400> 243

aggtaagtc	cagtttgaag	olcaaaagat	ctggtagag	celaggutca	tcgacgacat	60
ggtggcccaa	gctatgaat	cagagggagg	cttcactctg	gcctgtaaaa	actatgatcg	120
tgacgtgcag	tgggaictcg	lqgccccagg	gtatggctct	ctgggcctga	tgacagcgt	180
gctggtttcl	ccagatggca	agacagtaga	agcagaggct	gcccacggga	ctgtaacccg	240
tcactaccgc	atgttcacga	aaggacagga	gacgtccacc	aatcccattg	cttcattttt	300
t						301

<210> 244

<211> 300

<212> DNA

<213> Homo sapien

<400> 244

gctggtttgc	aggatgaaa	lgaatgatto	tacaagctagg	acttaacott	gaaatggaaa	60
gtcatguaat	cccatlbgca	agatctgtct	gtgcacatgc	ctctgtagag	agcagcattc	120
ccagggaac	tggaacacgt	tgacacilga	aggtagcttc	tcccaagac	acatcctaaa	180
aggctttgta	atggtgaaaa	ngtcttctct	ctttattgoc	ctttcttatl	tatgtgaaca	240
actgtltglt	ttttgtgtat	ctttttttaa	ctgtaaagtt	caaltglqaa	aatgaeltatc	300

<210> 245

<211> 301

<212> DNA

<213> Homo sapien

<400> 245

gtctgagtat	ttaaaatgtt	attgaaatta	tcccaacca	atgttagaaa	agaaagaggt	60
tatatactta	gataaaaaat	gagggtgaatt	actatccatt	gaaatcatgc	tcttagaatt	120
aaggccagga	gatattgtca	ttaattgtara	cttcaggaca	ctagagtata	gcagccctat	180
gttttcaag	agucagagatg	caattaaata	ttgttttagca	tcaaaaaggc	cactcaatac	240
agctaataaa	atgaagagacc	taattttctaa	agcaattctt	tataattttac	aaagttttta	300
g						301

<210> 246

<211> 301

<212> DNA

<213> Homo sapien

<400> 246

ggtctgtcct	acaaatgcctg	cttcttgaaa	gaagtcggca	ctttctagaa	tagctaaata	60
acctgggctt	attttaaaga	actattttga	gctcagattg	gttttcttat	ggclaaaaata	120
agtgcctctt	gtgaaatta	aataaaaacag	ttaattcaaa	gccttgetat	atgttaccac	180
taacaatcat	actaaatata	ttttgaagta	caaagtttga	catgctctaa	agtgacaacc	240
caaagtgtgc	ttacaaaaca	cgttccctaac	aagggtatgct	ttacactacc	aatgcagaaa	300
c						301

78

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247
 aggtcctttg gcagggtcca tggatcagag ctcaactgg agggaaaggc atttcgggtg 60
 gctcaggagg ggcactggcg gcagcacaac cuaggaggc aagggtgttt ccccaacgct 120
 gtctcctgtg ttcagggtcg acacacaatc ctcatgggaa caggatcacc catgcgctgc 180
 ccttgatgat caaggttggg gcttaagtggt attaaggag gcaagttctg ggttccttgc 240
 ctttcaaac catgaagtcg ggcctctglat cctcctttt cctaactgat attctaacta 300
 a 301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttcqgaagla cccctcact 60
 attaggaaga ttcttagggg taatttttct gaggaaggag aactagccc cttuagaatt 120
 acaggaagaa agtggttttg aagacagcca aagaaataaa agcagcttaa attgtatcag 180
 gtacattcca gctgtttggc aactccataa aaacatttca gattttaato cccgaatttag 240
 ctaatgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaasa actcagttcc 300
 c 301

<210> 249
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 249
 gtccagagga agcacctggg gctgaactag gcttgccctg ctgtgaatt gcacttggag 60
 ccttgacgct gctgtttctc ccgaaaaaac cgaccgacct cggcgatctc cgtcccgccc 120
 ccaggagagc acagcagtgga ctacagagctg gtccgacact gtgctccct cctcaccgcc 180
 catcgtaatg aattattttg aaatttaatt ccaccatcct ttcagattct ggatggaaag 240
 actgaatctt tgactcagaa ttgtttgctg aaaagaatga tgtgacttcc ttagtcatt 300
 a 301

<210> 250
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 250
 ggtctgtgac aaggacttgc aggcctgtggg aggcaggagla cccttaacac tacacttctc 60
 cttatcttta ttggtttgat aaacataatt atttctaaac ctgcttatt tccagttgac 120
 cataagcaca tcagtacttt totctggctg gaatagtasa ctcaagtatg gtacatctac 180
 ctaaaagact actatgttga ataatacata ctaatgaagt atlacatgat ttaagacta 240
 caataaaaac aaacatgctt ataacattaa gaaaaacat aaagctacct gattgaatcc 300
 a 301

<210> 251
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 251
 gccagaggtc tacattttgac ccagtttccc cctgcacct ctccagggcc cctgcclcat 60
 agcacaacct atagagcala ggaagactgg ttgcccctgg ggcaggggga ctgtctggat 120
 ggcagggggt ctcnaaaaag ccaatgtcac tgccaggaaa tgcttctgag cagtacacct 180
 ccttgggale aatgaagaag tlcagaaat cttcaggctc actctcttga aggcccgga 240

cctctggagg ggggcagtgg aatcccagct ccaggaogga tctgtcgaa aagatatcct 300
c 301

<210> 252
<211> 301
<212> DNA
<213> Homo sapien

<400> 252
gcaaccaatc acctgtgttc acgtgacttt tatcaccata caatttggtg catttcccca 60
ttttctacat tgtagaatca agagtgtana taaatgtata tcatgtctt caaguatata 120
tcattccctt ttcaactagga acccattcna aatetaagtc aaqaatctta atatcaacaa 180
atatatcaag caaactggaa ggcagcaata claccataat ttgtataag taccuaaagt 240
tttataaate aaagcccta alqataacca tttttageat tcaatcatca ctqtaqaate 300
a 301

<210> 253
<211> 301
<212> DNA
<213> Homo sapien

<400> 253
ttccctaaga agatgttatt ttgttgggtt ttgttccccc tccatctcga ttctcgtacc 60
caactaaaaa aaaaaataa agaaaaaatg tgctgcgttc tgaaaaataa ctcccttagct 120
tggtctgatt gttttcagac cttaaaatat aaacttggtt cacaagcttc aatcoatgtg 180
gatttttttt cttagagaa ccaaaaacat aaaaggagca agtcggactg aatacctgtt 240
tccatagtgc ccacagggtt ttctcacat tttctccata ggaaaatgct ttttcccaag 300
g 301

<210> 254
<211> 301
<212> DNA
<213> Homo sapien

<400> 254
cgctgcgcct ttcccttggg ggaggggcaa ggcagagggg ggtccaagt cagcacgagg 60
aacttgacca attcccttga agcgggtggg ttaaaacctg taaatggga caaatcccc 120
ccaaatctct tcatcttacc ctggtggaat cctgactgta gaattttttg gttgaaacaa 180
gaaaaaata aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc 240
acttaaatg agccaggaaa agotgcagat ttattaatgg gtgtgttagt gtgcagtgc 300
t 301

<210> 255
<211> 302
<212> DNA
<213> Homo sapien

<400> 255
agcttttttt tttttttttt tttttttttt ttcatlaaaa astagtgtc tttattataa 60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaasgtt tgccllqqat 120
tgggattttg ttgagttctt caagcatctc ctaataacct caagggcctg agtggggggg 180
aggaaaaagg actggaggtg gaatctttat aaaaaacaag agtgattgag gcagattgta 240
aacattatta aaaaacaaga aacaaacaaa aaatatagaga aaaaaaccac cccaacacac 300
aa 302

<210> 256
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 256

gttcagaaa	acattgaagg	tggcttccca	aagtctaact	agggatcccc	cctctagcct	60
aggacctcc	tccccacacc	tcaatccacc	aaaccatcca	taatgcaccc	agataggccc	120
acccccaaaa	gcctggacac	cttgagcaca	cagttatgac	caggacugac	tcctctctat	180
aggcaaatag	ctgctggcaa	actggcatta	cctggtttgt	ggggtgggg	gggcaagtgt	240
gtggcctctc	ggcctgggta	gcaagaacat	tcaggsgtaq	cctaagttan	tcgtgtlaqt	300
t						301

<210> 257

<211> 301

<212> DNA

<213> Homo sapien

<400> 257

gttgtggagg	aactclggct	tgtctattaa	gtctactga	ttttcactat	ccccgaatt	60
cccccaacta	tttttgtctt	tcactatcgc	aggccttaga	agaggctctac	ctgcctccag	120
tcttacctag	tccagctctac	ccccggaggt	tagaatggcc	atcctgaagt	gaaaagtaat	180
gtcacattac	tcccttcagt	gatttcttgt	agaagtgcga	atccctgaat	gccaccaaga	240
tcttaattctt	cacatcttta	atcttatctc	tttgactcct	ctttacaccg	gagaaggctc	300
c						301

<210> 258

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 258

cagcagtagt	agatgccgta	tgccagcag	cccagcactc	ccaggatcag	caccagcacc	60
agggggccag	ccaccaggcg	cagaagcaag	ataaacagta	ggctcaagac	cagagccacc	120
cccagggcaa	caagaatcca	ataccaggac	tgggcaaaat	cttcaagat	cttaacactg	180
atgtctcggg	cattgaggct	gtcaataana	cgtgatccc	ctgctgtatg	gtgggtgcat	240
tggatgccc	tgggagcgcc	ggcggagtaa	cgttggtcca	tggaaagcag	cgcccacaaac	300
t						301

<210> 259

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 259

tcatatatgc	aaacaaatgc	agaactangcc	tcaggcagag	actaaaggac	atctcttggg	60
gtgtcctgaa	gtgatttgga	ccccgaggg	cagacaccta	agtaggaate	ccagtgggaa	120
gcaaaagccat	aagggaagccc	aggattcctt	gtgatcagga	agtgggccag	gaaggctctgt	180
tccagctcac	atctcatctg	catgcagcac	ggaccggatg	cgcccactgg	gtcttggctt	240
ccctcccatc	ttctcaagca	gtgtccttgt	tgagccattt	gcataccttg	ctccagggtgg	300
c						301

<210> 260

<211> 301

<212> DNA

<213> Homo sapien

<400> 260

tttttttttct	ccctaaggaa	uaggauggaa	caagtctcat	aaaacccaat	aagcaatggt	60
aaggtgtctt	aacttgeaaa	agattaggag	tcactggllt	acaagttata	attgaatgaa	120
agaactgtaa	cagccacagt	tggccatttc	atgccaatgg	cagcaaacaa	caggattaac	180
tagggcaaaa	taantvagt	lgtggaagcc	clgataagtg	cttataaac	agactgatto	240
actgagcat	caglacctgc	cggggcggcc	gclcgagccg	aetctctcag	atatccatca	300
c						301

<210> 261

<211> 301

<212> DNA

<213> Homo sapien

<400> 261

aaatattcga	gcaaatcctg	taactaatgt	gtctccataa	aaggetttga	actcagtga	60
tctgcttcca	tccacgattc	tagcaatgac	ctctcggaca	tcaaagctcc	tcttaagggt	120
agcaccaaact	attccataca	attcatcagc	aggaaataaa	ggctcttcag	aagggttcaat	180
ggtgacatcc	aattttcttct	gataatttag	attcctcaca	accttcctag	ttaagtgaag	240
ggcatgatga	tcatecaaaag	cccagtggtc	acttaactca	gaactttctgc	aatgaagatc	300
a						301

<210> 262

<211> 301

<212> DNA

<213> Homo sapien

<400> 262

gaggagagcc	tgttacagca	tttgtaagca	cagaatactc	caggagtatt	tgtaattgtc	60
tgtgagcttc	ttgccgcaag	tctctcagaa	atttaaaaag	atgcaaatcc	ctgagtcacc	120
cctagacttc	ctaaaccaga	tcctctgggg	ctggaacctg	gcactctgca	tttgtaatga	180
gggctttctg	gtgcacaact	aattttgtgc	atctttgccc	taaatcctgg	attagtcccc	240
catcattacc	ccacatttat	aatgggatag	attcagagca	gatactctcc	agcaagaat	300
c						301

<210> 263

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 263

tttagcttgt	ggtaaatgac	tcacaaaact	gattttaaaa	tcaagttaat	gtgaattttg	60
aaaattacta	cttaatccta	attcacata	acaatggcat	taagggtttga	cttgagttgg	120
ttcttagtat	tatttatggt	aaataggctc	ttaccacttg	caaataactg	gccacatcat	180
taatgactga	cttcocagta	aggctctota	aggggttaagt	angaggatcc	acaggatttg	240
agatgctaag	gcccacagaga	togtttgatc	caacctctct	attttcagag	gggaaaatgg	300
g						301

<210> 264

<211> 301

<212> DNA

<213> Homo sapien

<400> 264

aaagacgtta	aaacactcta	ctaccacttg	tggaaacttc	aaaaggctaa	tgacaaacc	60
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82

aatgaatgac	tetaaaaaca	atatttccat	ttatgggtt	gtagacaata	aaaaaacaag	120
gtggatagat	ctageattgt	aacalittaa	gaaaaccata	scatttgaca	gatgagaaag	180
ctcaattata	gatgcaaaat	tataactaaa	ctactatagt	agtaaagaaa	tacatttcac	240
accttcata	tcaattcact	alcclggctt	gaggcaactcc	atanaatgta	tcacgtgcac	300
a						301

<210> 265

<211> 301

<212> DNA

<213> Homo sapien

<400> 265

tgcocaaagt	atgtgtaagt	gtatccgcac	ccagaggtaa	aactacactg	taccltttgt	60
cttcttgta	cgcagtattt	cttctctggg	gagaagccgg	gaagtcttct	cttggctctc	120
catattcttg	gaagtctcta	atcaactttt	gttccatttg	tttcatttct	tcaggaggga	180
ttttcagttt	gtcaacatgt	tctctaacaa	cacttgccca	tttctgtaaa	gaatccaaag	240
cagtcocagg	ctttgacatg	tcaacaacca	gcataactag	agtatccttc	agagatacgg	300
c						301

<210> 266

<211> 301

<212> DNA

<213> Homo sapien

<400> 266

taccgtctgc	cttctctccc	atccaggcca	tctgcgaatc	tacatgggtc	ctcctattcg	60
acacccagatc	actclttcct	ctacccacag	gcttgctatg	agcaagagac	acaacctcct	120
ctcttctgtg	lccagcttc	tlctctgtt	cttcccaccc	cttaagttct	attcctgggg	180
ctcagagacac	caatacccat	aacctctctc	ctaagctccc	ttataaccca	gggtgcacag	240
cacagactcc	tgacaactgg	taaggccaat	gaactgggag	ctcaccagclg	gctgtgcttg	300
a						301

<210> 267

<211> 301

<212> DNA

<213> Homo sapien

<400> 267

aaagagacaa	ggccagctca	gcctgccttg	gccatctaga	ctcagccctgg	ctccatgggg	60
gttclcaagt	ctgagtcuat	ccaggaaaag	ctcacctaga	cttctctagg	ctgaatcttc	120
atctctccag	gcagclcttg	agagccctgat	attcctagcc	ttgatyggtt	ggagttaagg	180
ctcatctctg	lccctctcct	lcttttcttt	caagttggct	ttctctacat	ccctctgttc	240
aattcgtctc	agcttgcltg	ctttagccct	catttccaga	agcttctctt	ctttggcact	300
t						301

<210> 268

<211> 301

<212> DNA

<213> Homo sapien

<400> 268

aatgtctcac	tcaactactt	cccagcctac	cgtggcctaa	ttctgggagt	tttcttctta	60
gatcttgga	gagctgggtc	ttctaaggag	aaggaggaag	gacagatgta	actttggatc	120
togaagagga	agtctaattg	aagtaattag	tcaacggctc	ttgtttagac	tcttgggaata	180
tgctgggtgg	ctcagtgagc	ccctttggag	aaagcaagta	ttattcttaa	ggagtaacca	240
cttcccaattg	ttctaatttc	taccatcact	aattgtatat	tatgtattct	ttggagaact	300
a						301

<210> 269

<211> 301

<212> DNA

<213> Homo sapien

<400> 269

taacaatata	cactagctat	ctttttaact	gtccatcatt	agcaccaatg	aagattcaat	60
aaaattacct	ttattcacac	atctcaaac	aattctgca	attcttagtg	aagtttaact	120
atagtcacag	accttaata	ttcacattgt	tttctatgtc	tactgaaaat	aagttcacta	180
ctttctgga	tattctttac	aaaatcttat	taaaattcct	ggtattatca	cccccaatta	240
tacagtagca	caaccaoctt	atgtagtttt	tacatgatag	ctctgtagaa	gtttcacatc	300
t						301

<210> 270

<211> 301

<212> DNA

<213> Homo sapien

<400> 270

cattgaagag	cttttgagaa	acatcagaa	acaagtgcct	ataaaattaa	ttaagcctta	60
cacaagaata	catcttcctt	ttattttctaa	ggagttaaac	atagatgtag	ctgatgtgga	120
gagcttgctg	gtgcaglgca	tattggataa	cactlctcat	ggccgaattg	atcaagtcac	180
ccactcctt	gaactggatc	atcagaagaa	gggtggtgca	cgatatactg	cactagatca	240
tggaccaccc	aactaaatto	tctcaccagg	ctgtatcagt	aaactgqctt	aacagaaaaa	300
a						301

<210> 271

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{301}

<223> n = A,T,C or G

<400> 271

aaaaggttct	cataagctta	acaattttaa	taaatatllg	atagaaacatt	ctttctcatt	60
tttatagctc	atctttaggg	ttgatactca	gttcatgcct	cccttgolgt	tcttgatcaa	120
gaattgcaat	cacttcatca	gcctgtattc	gttccaattc	tclataaaagt	ggglccaagg	180
tgaaccacag	agccacagca	cacctctttc	ccttggtgac	tgccttcacc	ccatgenggt	240
tctctcctcc	agatganaac	tgatcatgcy	cccacatttt	gggttttata	gaagcagtc	300
c						301

<210> 272

<211> 301

<212> DNA

<213> Homo sapien

<400> 272

tcaattgcta	agccacagct	aacaccaatc	aatggaaca	aatcaactgtc	ttcaaatgtc	60
ttctcagaaa	accgaatgag	cctgggaatct	tctaatatcc	taaacatgcc	gtatttagga	120
tccaataaatt	ccttcatgat	gagcaagaaa	aattctttgc	gcacccctcc	tgcatacaca	180
gcatctttct	caacaatat	aaccttgagc	ggctlcttct	aetatalett	ctttgttttc	240
ctaaggactt	ccattgcate	tcttacaata	tttctctctc	gcacccactag	aattaagucg	300
g						301

<210> 273

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{301}

<223> n = A,T,C or G

<400> 273

acatgtgtgt	atgtgtatct	ttgggaaan	aanaagacat	cttgtttct	atttttttgg	60
agagangctg	ggacatggat	aatcacwta	tttgctayta	tyactttant	ctgactygaa	120
gaaccgtcta	aaaataaaat	ttaccatgtc	dtataattcct	tatagtatgc	ttatttcacc	180
tttcttctgt	ccagagagag	tatcagtgac	ananatttma	gggtgaamac	atgmattggg	240
gggacttnty	tttaengagm	acctgcccg	sgugccctcg	makongant	ccgcenane	300
t						301

<210> 274

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 274

cttatatact	ctttctcaga	ggcaaaagag	gagatgggta	atgtagacaa	ttctttgagg	60
aacagttaaat	gattattaga	gagaangaat	ggaccaagga	gacagaaatt	aacttgtaaa	120
tgattctctt	tggaaatctga	atgagatcaa	gaggccagct	ttagcttctg	gaaaagtcca	180
cttaggtatg	gttgcatctt	cgtcttcttt	cttgcagtag	ataatgaggt	aaccgaaggc	240
aatttgtctt	cttttgataa	gaagctttct	tggtcataatc	aggaaattcc	aganaaagtc	300
c						301

<210> 275

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 275

tgggtgtcag	cagcagtggt	cattgaacat	tgcaatgtgg	agcccaaacc	acagaaaatg	60
gggtgaaatt	ggccaacttt	ctattaactt	atgtttggca	ttttgccacc	aacagttaagc	120
tggcccttct	aataaaagaa	aattgaagg	tttctcacta	aacgggaatta	agtatgtggag	180
tcaagagact	cccaggtctc	agcgtacutg	ccggggcggc	cgtctgaagc	cgaattcttc	240
agatatccat	cacactggcg	gncgtctgan	catqcatcta	gaaggnccaa	ttcgccctat	300
a						301

<210> 276

<211> 301

<212> DNA

<213> Homo sapien

<400> 276

tgtacacata	ctcaataaat	aaatgactgc	attgtggtat	tattactata	ctgattatat	60
ttatcatgtg	acttctaatt	agaaaatgta	tccaaaagca	aaacagcaga	tatacaaaat	120
taaagagaca	gaagatagac	attaacagat	aaggcaactt	atacattgag	aatccaaate	180
caatacattt	aaacattttg	gaaatgaggg	ggacaaatgg	aagccagatc	aaatttgtgt	240
aaaactattc	agtatgtttc	ccttgcttca	tgtctgagaa	ggctctcctt	caatggggat	300
g						301

<210> 277

<211> 301

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 277
 tttgttgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60
 atacagagga cttggaggaa gcagagcaac tgaatttaat ttaaaagaag gaaaacattg 120
 gaatcatggc actcctgata ctttcccaaa tcaacactct caatgcccc aacctcgtcct 180
 caccatagtg gggagactaa agtggccacg gatttgcott angtgtagag tgcgttcotga 240
 gttcnctgtc gattacatct gaccagtctc ctttttcoga agtcnctcog ttcaatcttg 300
 c 301

<210> 278
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 278
 taccactaca ctccagcctg ggcacacagag caagacctgt ctcaaagcat aaaatggaat 60
 aacalataca atgaaacagg gaaaatgaag ctgacaattt atggaagcca gggcttgatc 120
 cagtctctac tgttattatg cattaccttg gaatttatat aagcccttaa taataatgcc 180
 aatgaacatc tcatgtgtgc tcacaatgtt ctggcactat tataagtgtc tcacagggtt 240
 tatgtgtttc tegttaactt atggantagg tactcggcog cgaacacgct aagccgaatt 300
 c 301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 279
 aaagcaggaa cgacaaagct tgcttttctg gtatgttcta ggtgtattgt gacttttact 60
 gttatattaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttacaaagc 120
 ttagaccttt acctccagc caccacacag tgcttgatat ttcagagtca gtcattgggt 180
 atacatgtgt agttccaaag cacataagct aganaanaa atatttctag ggagcactac 240
 catctgtttt cacatgaat gccacacaca taguactcua acctcaattt cattguacag 300
 a 301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280
 ggtaclggag Ltttctccc ctgtgaaaac gtaactactg ttgggagtga attgaggatg 60
 tagaaaggctg gtggaaccac attgtggtca atggaaatag gagaatatgg ttctcactct 120
 tgagaaaaaa acctaaagatt agcccaggta gttgcctgta acttcagttt ttctgcctgg 180
 gtttcatata gtttaggggt ggggttagat taagatctaa attacatcag gacaaagaga 240
 cagactatta actccacagt taattaagga ggtatgttcc atgttttatt gttaaagcag 300
 t 301

<210> 281
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 281
 aggtacaaga aggggaatgg gaaagagctg ctgctgtggc attgtccaac ttgatattc 60
 gccgagcaat ccaaaccctg aatgaagggg catcttctga aaaaggagat ctgaatctca 120
 atgtggtagc aatggcttta tcgggttata cggatgagaa gaactccctt tggagagaaa 180
 tgtgtagcac actgcgatta cagctaaata acccgatttt gtgtgtcatg ttgcatctc 240
 tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagtt gcagtaacct 300
 g 301

<210> 282
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 282
 cagggtactac agaattaaa tactaacag cagtgagttt cttaggagtgc acgaattgca 60
 tccagaaccc aaaaatttaa aaattcaaaa agacattttg tgggcaacclg ctgacacaga 120
 agcgcagang caaagccacg gcaagaacct gctaacctta cagclcaacc tgcacagaaq 180
 cgcagaaaga aagcccagac agaacctatg taaccttaca gctcagcctg cacagaagcg 240
 caggaagcaan gccnaggcag aacatgctaa ccttcacagc cagcctgcac agaagcacag 300
 a 301

<210> 283
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 283
 atctgtatac ggcagacaaa cttttatarag tgtagagagg tgagcgaaaq gatgnaaaq 60
 cacttttggg gttttataal aatatqctgc ttgaaaaaaa aaatgtgtay ttgclactca 120
 gtgcctclcc agcatagla aggggttgcl clgacccatc aggtgatcal ttttctatc 180
 acttcccagg ttttatgcaa aatlttltgt aaattctata atgglgatat gcatctttta 240
 ggaaacctat acatllttaa aatctattt tatgtaagaa ctgacagacg aatttgcttt 300
 g 301

<210> 284
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 284
 cagggtacaaa acgctattaa gtggccttaga atttgaacat ttgtggtctt tatttacttt 60
 gcttcgtgtg tgggcaaaagc aacatcttcc ctaaatatat attaccaaga aagcaagaa 120
 gcagattagg tttttgacaa aacaaacagg caaaaagggg gctgacctgg agcagagcat 180
 ggtgagaggg aagguatgag agggcaagtt tgttgtggac agatctgtgc ctactttatt 240
 actggagtaa aagaaacaa agttcattga lgtcgaagga tatatacagt gttayaaatt 300
 a 301

<210> 285
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> [1]...[301]
 <223> n = A, T, C or G

87

<400> 285
 acatcaccat gatcggtacc cccacccatt ataogttgta tgtttacata aatactcttc 60
 aatgatcatt agtgttttaa aaaaaatact gaaaactcct tctgcatccc aatctctaac 120
 caggaaagca aatgctatit acagacctgc aagccctccc tcaaacnaaa ctatttctgg 180
 attaaatatg totgacttct tttgaggfca caccgactagg caaatgctat ttacgatctg 240
 caaaagctgt ttgaagagtc aaagccccc tgtgaacacg atttctggac cctgtaacag 300
 t 301

<210> 286
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 286
 taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaa aaactttgct 60
 tglatatctt tlltgctta cagtgagaca ttctcgtagg aaaggacagt aagattttll 120
 atcaaaatgt gtcctgccag taagagatgt tatattcttt tctcctttct tccccaccca 180
 aaataagct accatatagc ttataagctc caaatllttg ccttttcta aaatgctgatt 240
 gtttctgttc attgtgtatg cttcatcacc tataattaggc aaattccatt tttcccttg 300
 t 301

<210> 287
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 287
 tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatatgga gaatgttggg 60
 uccagaagga acgtagagat cagatattac aacagctttg ttttgagggt tagaatatg 120
 aaatgatttg gttatgaacg cacagtttag gcagcagggc cagaatcctg accctctgac 180
 cagtggttat ctcctcccca gcttggttgc ctcatgttat cacagtcttc ccttllggtt 240
 gttgcatgtc ttgtgaagcc atcaagattt tctcgtctgt ttctctctca ttggtaatgc 300
 t 301

<210> 288
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 288
 gtacacctaa ctgcaaggac agctgaggaa tgtaatyggc agccgctttt aaagaagtag 60
 agtcaatagg aagacaaatt ccagttccag ctccgtctgg gtatctgcaa agctgcaaaa 120
 gatctttaaa gacaatttca agagaaatatt tccctaaagt tggcaatttg gagatcatc 180
 aaagacatct gcttttgtga ttttaatttag utcatctggc cactggaaga atccnaacag 240
 totgccttaa ttttggatga atgcatgtg gaaattcaat aatttagaaa gttcaaaaaa 300
 a 301

<210> 289
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 289
 ggtacactgt ttccatgtta tgtttctaca cattgctacc tcagtgtctc tggaaaactta 60
 gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg 120
 ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa 180

88

cgttctataa atgaatgtgc tgaugcaaaag tgcctatggc ggccggcgaan aagagaaaga 240
 tgtgttttgt tttggactct ctgtggtccc ttccaatgct gtgggtttcc aaccagngga 300
 a 301

<210> 290
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (301)
 <223> n = A,T,C or G

<400> 290
 acaactgagct cttcttgata aatatacaga atgcttggca tatacaagat tctatactac 60
 tgaactgatct gttcattttct ctcacagctc ttacccccc aaagcttttcc accctaagtg 120
 ttctgacctc cttttctaata cacagttagg atagaggcag anccacctac aatgaacatg 180
 gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg cttagcagtgc 240
 tgccttgaac aaaaacattt ctccatgtct catitttctc atgcttcaag taacagttag 300
 a 301

<210> 291
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 291
 caggtaccaa tttctttctat cctagaacaa ttccatttta tgttgtttaa acataacaaac 60
 tatatcagct agatlllllll tctatgcttl aculgcclatg gaaaalliga cacattctgc 120
 ttactcttt tgtttatagg tgaatcacia aatgtatttt tatgtattct gtatttcaat 180
 agccatggct gtttacttca tttatattat ttagcataaa gacattatga aaaggcctaa 240
 acatgagctt caattcccca ctaactaatt agcatctgtt atttcttaac cgtaatgcct 300
 a 301

<210> 292
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)... (301)
 <223> n = A,T,C or G

<400> 292
 accttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc 60
 tgtattaaat aatttttaag tttaaaagat aaaataccat catttttaaat gttggtattc 120
 aaaaacaaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnaagtg 180
 ggaaatatag taatttatga atgttnatta aattccagtt ataatagttg ctacacactc 240
 tcactacaca cacagacccc acagtccat atgccacaaa cacatttcca taacttgaaa 300
 a 301

<210> 293
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 293
 ggtaccaaagt gctggggcca gctgtttacc tgttctcaat gaaagctctg gctaatgctc 60
 ttatgtagtc acttctgatt ctgacaaatca atcaatcaat ggcctagagc actgactgtt 120
 aaacaaaacg tccctggcaa agtagcauca gctttaagtc tcaatacaaa gctgttctgt 180

89

gtgagaattt tttaaaaggc tacttgata atpacccttg tcatttttaa tgtacctcgg 240
 ccgcgaccac gctaagccga attctgcaga tatccatcac actggcggcc gctcgagcat 300
 g 301

<210> 294
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 294
 tgaccataa caatatacac tagctatctt tttactgtc catcattagc accaatguag 60
 attcaataaa attaccttta ttcaacacac tcaaaaacaat tctgcuaatt cttagtgaag 120
 tttactata gtcacagano ttaaatatct acattggttt ctatgtctac tgaaaatnag 180
 ttcaactact ttctgggata ttctttacaa aatcttatta aaattcctgg tattatcacc 240
 cccaattata cagtagcaca accaccttat gtaqltttta catgalagct ctgtagagggt 300
 t 301

<210> 295
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 295
 gtactctttc tctccctccc tctgaattta attctttcaa ctgcaattt gcaaggatta 60
 cacatttcac tgtgatgtat attgtgttgc aaaaaaaaan gtgtctttgt ttaaaattac 120
 ttggtttgtg aatocacttt gctttttccc cattggaaat agtcattaac ccattctctga 180
 actggtagaa aaactrtotga agagctagtc tatcagcacc tgacaggtga attggatggg 240
 tctcagaacc atttcaccca gacagcctgt ttctatcctg tttactaat taqtttgggt 300
 tctct 305

<210> 296
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 296
 aggtactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct 60
 cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt atttcccttg 120
 attaaataga attaatatac caatatgagg aaacatgaaa ccattgcaatc tactatcaac 180
 tttgaaaaag tgattgaacg aaccacttag ctctcagatg atgaacactg ataagtcatt 240
 tgtcattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg 300
 c 301

<210> 297
 <211> 300
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(300)
 <223> n = A,T,C or G

<400> 297
 actgaatttt aactggacgc caagcaggca aggctggaag gttttgctct ctctgtgcta 60
 aaqgttttga aaaccttgaa ggagaatcat ttgacaaga agtaactaag agtctayaga 120
 acaagangt gaaccagctg aaagctctcg gggaanctt acatgtgttg ttaggcctgt 180

tccatcattg ggagtgcaact ggccatccct caaaatttgt ctgggctggc ctgagtggtc 240
accgcacctc ggccgcgacc acgctaagcc gaattctgca gatatccatc acactggcgg 300

<210> 298

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)..(301)

<223> n = A,T,C or G

<400> 298

tatgggggttt gtcacccaaa agctgatgct gagaaaggcc tccctggggc cctcccgog 60
ggcatctgag agacctggtg ttccagtgtt tctggaaatg ggtcccagtg ccgccggctg 120
tgaagctctc agatcaatca cgggaagggg ctggcggtgg tggccacctg gaaccacct 180
gtcctgtctg tttacatttc actaycaagt tttctctggg cattacnatt tgttcccta 240
caacagtga cctgtgcattc tgcctgtggc tgcctgtctc gcagggtggt ctcagcgagg 300
t 301

<210> 299

<211> 301

<212> DNA

<213> Homo sapien

<400> 299

gttttgagac ggagtttca ccttgttgcc cagaactggac tgcaatggca gggctctctg 60
tcactgcacc ctctgcctcc caggttogag caattctcct gcctcagcct ccaggttagc 120
tgggattgca ggctcagccc accataccca gctaattttt ttgtattttt agtagagacg 180
gagtttcgcc atgttggcca gctggtctca auctcctgac ctcaagcgac ctgcctgcct 240
cggcctccca aagtgtctga attatagguu ttagtcaaca cgcctcagcct aaagatattt 300
t 301

<210> 300

<211> 301

<212> DNA

<213> Homo sapien

<400> 300

attcagtttt atttgcctgc ccagtatctg taaccaggag tgccacaaaa tcttgccaga 60
tatgtccac acccaactgg aaaggctccc acctggctac ttctctatc agctgggtca 120
gctgcattcc acaaggctct cagcctaatt agtttacta cctgccagtc tcaaaactta 180
gtaaaagcaag accatgacat tccccacgg aaatcagagt ttgccccacc gtottgttac 240
tataaagcct gcctctaaca gtccttgctt ctccacacca atcccagagc catccccat 300
g 301

<210> 301

<211> 301

<212> DNA

<213> Homo sapien

<400> 301

ttaaattttt gagaggataa aaaggacaaa taatctagaa atq1qhttc tlcagtctgc 60
agaggacccc aggtctccaa gcaaccacat ggtcaagggc atgaataatt aaaaagtgtg 120
gggaactcac aaagacctc agagctgaga caccacaac agtgggagcl cacaaagacc 180
ctcagagctg agacacccac aacagtggga gctcacaag arccctcagag ctggagaccc 240
cacaaagca cctcgttcag ctgccacatg tgtgaataag gatgcaatgt ccagaagtgl 300
t 301

<210> 302

<211> 301

<212> DNA
<213> Homo sapien

<400> 302
aggtacacat ttagcttgtg gtaaataact cacaataact attttaaaat caagttaatg 60
tgaatttttg aaattactac ttaatactaa ttcaacaata caatggcatt aagggtttgac 120
ttgagttggt tcttagtatt atttatggta aataggctct taccacttgc aaataactgg 180
ccacatcatt aatgactgac ttcccagtaa ggctctctaa ggggtaagta ggaggatcca 240
caggatttga gatgctaagg ccccagagat cgtttgatcc aacctcttta ttttcagagg 300
g 301

<210> 303
<211> 301
<212> DNA
<213> Homo sapien

<400> 303
aggtaccaac tgtggaaata ggtagaggat cattttttct ttccatatca actaagttgt 60
atattgtttt ttgacagttt uacacatctt cttctctcag agattctttc acaatagcac 120
tggttaattg aactaccgct tgcattgtta aaatgggtgg ttgtgaaatg atcataggcc 180
agtaacgggt atgtttttct aactgatctt lltctctctc caaaggggacc taaagcttc 240
catcgatttt atatctgggg totagaaaag gagtcaatct gttttccctc ataaeltcac 300
c 301

<210> 304
<211> 301
<212> DNA
<213> Homo sapien

<400> 304
acatggatgt tattttgcag actgtcaacc tgaatttcta ttgtcttgac attgocaaat 60
tattagtttc agtttcagct taccacattt ttgtctgcaa catgcaraas agacagtggc 120
ctttttagtg tctcatatca ggaatcatct cactctgggt ttgtgccatta ctggtgcagt 180
gactttcagc cacttgggtg aggtggagtt ggcccatatg ctccactgca aaattactga 240
ttttcctttt gtaattanta agtctgtctg tgaagattct ctgagatgag gtatatatct 300
c 301

<210> 305
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> {1}...{301}
<223> n = A,T,C or G

<400> 305
gangtacagc gtggtcagg taacaaqaag aaaaaaatgt gagtggcatt ctgggatgag 60
cagggggaca gacctggaca gacacgttgt calctctctg tgtgggtagg aaaaatggcg 120
taaaggagga gaaacagata caaaeltctc aactcaglat taaggatatt tcatgcctag 180
aatatttggt gaaacaagaa tcaattcata tggcaaatga claaaccatt tggaaacaaa 240
ttctgggatt taagliggat acaaangasa ttgtattaaa agagctcttc atygaataag 300
a 301

<210> 306
<211> 8
<212> PRT
<213> Homo sapien

<400> 306
Val Leu Gly Trp Val Ala Glu Leu

1

5

<210> 307
 <211> 637
 <212> DNA
 <213> Homo sapien

<400> 307

acaggggratg	aagggaaggg	gagaggatga	ggaagccccc	ctgggggattt	ggtttggtcc	60
ttgtgatcag	gtggtctatg	gggtttatcc	ctacaaagaa	gaatccagaa	atagggggcac	120
attgaggaat	gatacttgag	cccaaaagagc	attcaatcat	tgtttttattt	gocctmtttt	180
caacaccattg	gtgagggagg	gattaccacc	ctgggggttat	gaagatgggtt	gaacaccccca	240
cacatagcac	cggagatatg	agatcaacag	tttcttagcu	atagagattc	acagcccaga	300
gcaggaggac	gcttgccacac	catgcaggat	gacatggggg	atgcgctcgg	gattggtgtg	360
aagaagcaag	gactgttaga	ggcaggcttt	atagtaacaa	gacgggtggg	caaaactctga	420
tttccgtggg	ggaatgtcat	ggtcttgctt	tactaagttt	tgagactggc	aggtaglqaa	480
actcattag	ctgagaaact	tgtggaaagc	actlgaacca	actgataag	gaagtggcca	540
ggtagggggcc	tttcccaagt	ggtgtgggac	atatctggcc	agatLLtgtg	gcactcctgg	600
ttacagatac	tggggcagca	aalcaaaactg	aatcttg			637

<210> 308
 <211> 647
 <212> DNA
 <213> Homo sapien

<220>

<221> misc feature

<222> (1) ... (647)

<223> n = A, T, C or G

<400> 308

acgatttcca	ctctcatgta	atcggggtca	ctcaaggggc	caacacacgc	tgggagccac	60
tgctcagggg	aagggttcata	tgggactllc	tactgcccaa	ggttctctac	aggatstaaa	120
ggngcctcac	agtalagatc	tggtagcaaa	gaagaagaaa	caaacactga	tctctttctg	180
ccaccctctt	gaccttttg	aaactcctctg	accttttaga	acaagcctac	ctaatactctg	240
ctagagaaaa	gaccaacaac	ggcctcaaa	gatctcttac	catgaaggtc	tcagctaatt	300
cttggctaag	atgtgggttc	cacattagggt	tctgaatatg	gggggaaggg	tcaatttgct	360
catttttgtt	gtggataaag	tcaggatgcc	caggggccag	agcagggggc	tgcttgcttt	420
gggaacaatg	gctgagcata	taaccatagg	ttatggggaa	caaaaacaaca	tcaaagtcac	480
tgtatcaatt	gccatgaaga	cttgagggac	ctgaatctac	cgattcatct	taaggcagca	540
ggaccagttt	gagtggcaac	aatgcagcag	cagaatcaat	ggaaacaaca	gaatgattgc	600
aatgtccttt	ttttctcct	gcttctgact	tgataaaagg	ggaccgt		647

<210> 309
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 309

actttatagt	ttaggctgga	catttgaaaa	aaaaaaaagc	cagaascaaca	tgtgatagat	60
aatatgattg	gctgcacact	tccagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gaacacatct	tcagcaagag	ggggaaatac	tcatcatttt	tggccagcag	ttgtttgatc	180
acccaaacatc	atgccagaat	actcagcaaa	ccttcttagc	tcttgagaag	tcaaagtcag	240
gggggaattta	ttcctggcaa	ttttaatttg	actccttatg	tgagagcagc	ggctaccacg	300
ctgggggtggt	ggagcgaaac	cgtcactagt	ggacatgcag	tggcagagct	cctggtaacc	360
acctagaggga	atacacaggc	acatgtgtga	tgcgaagcgt	gacacctgta	gcactcaaat	420
ttgtcttggt	tttgtcttcc	ggtgtgtaag	attcttaagt			460

<210> 310
 <211> 539
 <212> DNA
 <213> Homo sapien

<400> 310

acgggactta	tcaataaag	ataggaaaag	aagaaaactc	aaatattata	ggcagaactg	60
ctaaaggttt	taaaatetgt	caggattgga	agaaggcatg	gataaageac	aaagttcagt	120
taggaagag	aaacacagaa	ggaaagagaca	caataaaggt	cattatgtat	tctgtgagaa	180
gtcagacagt	aagattttgtg	ggaaatgggt	tggtttggtg	tatggatgt	actttagcaa	240
taattctttat	ggcagagaaa	gctaaaatcc	tttagcttgc	gtgaatgatc	acttgctgaa	300
ttcctcaagg	taggcattgat	gaaggagggt	ttagaggaga	cacagacaca	atgaactgac	360
ctagatagaa	agccttagta	tactcagcta	ggaatagtga	ttctgagggc	acactgtgac	420
atgattatgt	cattacatgt	atggtagtga	tggggatgat	aggaaggaag	aacttatggc	480
atattttcac	ccccacaaa	gtcagttaaa	tattgggaca	ctaaccatcc	aggtcaaga	539

<210> 311

<211> 526

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(526)

<223> n = A,T,C or G

<400> 311

caaatattga	ccaatgacat	agaattttac	aaatcaagaa	gcttattctg	gggcatttc	60
ttttgacgtt	ttctctaaac	tactaaagag	gcctlaatga	tccclaaatt	atattatcta	120
caatttaacgc	atctaaaatg	tgttcagcat	gaatatcttg	ctacagggga	agclaaataa	180
atleaacatg	gaataaaga	ttgtccttaa	atataaacta	caagaagact	ttgatatttg	240
tttttcacaa	gtgaagcatt	cttataaagt	gtcataacct	ttttggggaa	actatgggaa	300
aaaatgggga	aactctgaag	ggttttaagt	atcttacctg	aagctacaga	ctccataacc	360
tctctttaca	gggagctcct	gcagccocta	cagaatgag	tggctgagat	tcttgattgc	420
acagcaagag	cttctcatct	aaacccttct	cctttttagt	atctgtgtat	caagtataaa	480
agttctataa	actgtagtnc	acttatttta	atccccaaag	cacagt		526

<210> 312

<211> 500

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(500)

<223> n = A,T,C or G

<400> 312

cctctctctc	cccacccctc	gactctagag	aactgggttt	tctccagta	ctccagcaat	60
tcattttctga	aagcagttga	gccactffat	tccaaagtac	actgcagatg	ttcaaaactct	120
ccattttctct	ttcccttcca	cctgcagatt	ttgctgactc	tcaacttgct	atgagtgtaa	180
gcattaagga	cattatgctt	cttcgattct	gaagacaggc	cctgctcatg	gatgactctg	240
gottcttagg	aaaatatttt	tcttccaaaa	tcagtaggaa	atctaaaact	atccctctct	300
tgcagatgtc	tagcagcttc	agacatttgg	ttagaacccc	atgggaaaaa	aaaaaatccf	360
tgtaatgtg	gtttcctttg	taaaccanqa	ttcttatttg	nctggtatag	aatatcagct	420
ctgaacgtgt	ggtaaagatt	tttgtgtttg	aatataggag	aatcagttt	gctgaaaagt	480
tagtcttaat	tatctattgg					500

<210> 313

<211> 718

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(718)

<223> n - A, T, C or G

<400> 313

ggagatttgc	gtggtttgca	gccgagggag	accaggaaga	tctgcatggt	gggaaggacc	60
tgatgataca	gaggtgagaa	ataagaaagg	ctgotgactt	taccatctga	ggccacacat	120
ctgctgaat	ggagataatt	aacatcacta	gaaacagcaa	gatgacaata	taatgtctaa	180
gtagtacat	gtttttgcac	atttccagcc	cttttaata	tccacacaca	caggaagcac	240
aaaaggaagc	acagagatcc	ctgggagaaa	tgcctggccg	ccatcttggg	tcacgatga	300
gcctcgccct	gtgcctgntc	ccgcttgtga	gggaaggaca	ttagaaaatg	aattgatgtg	360
ttccttaaa	gatggcagga	aaacagatcc	tgttgtggat	atttatttga	acgggattac	420
agatttgaaa	tgaagtacac	aagtgagcat	taccaatgag	aggaaaacag	acgagaaaat	480
cttgatggtt	cacaagacat	gcaacacaca	aaatggaata	ctgtgatgac	acgagcagcc	540
aaatggggag	gagataccac	ggggcagagg	tcaggattct	ggccctgctg	cctaactgtg	600
cgttatacca	atcatttcta	tttctacctt	caaaacaagct	gtngaataac	tgacttacgg	660
ttcttntggc	ccacattttc	atnateccac	ccctcttttt	aannttante	caaatgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttatttgc	attacagaaa	aaacatcaag	acaatgtata	ctatttcaaa	tatatccata	60
cataatcaaa	tatagctgta	gtacatgttt	tcatttgggt	agattaccac	aaatgcaagg	120
caacatgtgt	agatctcttg	tcttattott	ttgtctataa	tactgtattg	tgtagtccaa	180
gctctcggt	gtccagccac	tgtgaaacat	gtcccttita	gattaacctc	gtggacgctc	240
ttgttgtatt	gctgaactgt	agtgcctctg	attttgcttc	tgtctgtgaa	ttctgttgc	300
tctggggcat	ttccttgtga	tgcagaggac	caccacacag	atgacagcaa	tctgaatt	358

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

taccacntcc	ccgctggcac	tgatgagccg	catcaccatg	gtcaccagca	ccatgaaggc	60
atagggtgat	atgaggacat	ggaatgggcc	cccaaggatg	gtctgtccaa	agaagcgagt	120
gacccccatt	ctgaagatgt	ctggaacctc	taccagcagg	atgatgatag	ccccaatgac	180
agtcacacag	tcctcgacca	gccggatato	gtccttaggg	gtcatgtagg	cttccctgaag	240
tagcttctgc	tgtgaagggg	tgttgtcccg	gggctcctg	cggttattgg	tccctggcct	300
gagggggcgg	tagatgcagc	acatggtgaa	gcagatgatg	t		341

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

agactgggca	agactcttgc	gccccacact	gcaatttggg	cttqttggcg	tatccattta	60
tgtgggcctt	tclogatctt	ctgattataa	accccactgg	agcgatgtgt	tgaclygact	120
catttcaggga	gctctggttg	caataatagt	t			151

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

agaactagt	gatccaatg	aaataacctga	aacatatatt	ggcattttatc	aatggctcaa	60
atcttcattt	atctctggcc	ttaacctgtg	ctcctgaggc	tgcggccagc	agatcccagg	120
ccagggetot	gttcttgcga	caactgcttg	a			151

<210> 318
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 318
 actggtggga ggcgctgttt agttggctgt ttccagaggg gtctttcgga gggacctctt 60
 gctgcaggct ggagtgcttt tttccctggc qggagaccgc acattccact gctgaggctg 120
 tgggggcggg ttatcaggca gtgataaaca t 151

<210> 319
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 319
 aactagtggg tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta 60
 catagatagt actaggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg 120
 taagattggg tttatgtgat tttagtgggt a 151

<210> 320
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 320
 aactagtggg tccactagtc cagtgtgggt gaattccatt gtgttggggg tctagatcgc 60
 gaggcgctgc cttttttttt ttittttttg ggggggaatt tttttttttt aatagttatt 120
 gagtgttcta cagcttcacg laaataccat 150

<210> 321
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 321
 agcaactttg tttttcatcc aggttatatt aggettagga tttcctctca cactgcagtt 60
 tagggtagga ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg 120
 tgcctctgag aatcaaaagt cttcatcac t 151

<210> 322
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{151}
 <223> n = A, T, C or G

<400> 322
 atccagcacc ttctcctgtt tcttgccctc ctttttcttc ttcttaacatt ctgcttgagg 60
 tttgggcttg gtcagtttgc cacagggctt ggagatgggt acagtcttct ggcattcggc 120
 attgtgcagg gctcgttcca naattccagt t 151

<210> 323
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...[151]

<223> n = A,T,C or G

<400> 323

tgaggacttg	tkttcttttt	ctttatttll	aatectctta	ckttgttaar	atattgecta	60
nagactcant	tactacccag	tttgtggtt	twtgaggaga	atgtaactgg	acagttagct	120
gttcaatyaa	aaagacactt	ancccatgk	g			151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...[461]

<223> n = A,T,C or G

<400> 324

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agaagtgtc	agctaaagga	atccaggttg	ttgggtggac	tgttaatacc	tttgatgaaa	120
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<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

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<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

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97

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<210> 327
 <211> 220
 <212> PRT
 <213> Homo sapien

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<400> 327
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Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35      40      45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50      55      60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65      70      75      80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85      90      95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100     105     110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115     120     125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130     135     140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145     150     155     160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165     170     175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180     185     190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195     200     205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210     215     220

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<210> 328
 <211> 234
 <212> DNA
 <213> Homo sapien

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atccgcagtg ggtgctgtca gccacacact gttccagaa ctctacacc atcgggctgg 180
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<210> 329
 <211> 77
 <212> PRT
 <213> Homo sapien

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<400> 329
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98

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 35 40 45
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 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
 65 70 75

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 <212> DNA
 <213> Homo sapien

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<210> 331
 <211> 22
 <212> PRT
 <213> Homo sapien

<400> 331
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 Val Ser Gly Ser Cys Ser
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 <212> DNA
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<210> 333
 <211> 3030
 <212> DNA
 <213> Homo sapien

<400> 333

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 <212> DNA
 <213> Homo sapien

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 <211> 2984

<212> DNA

<213> Homo sapien

<400> 335

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caccccccac	aaactttatt	tttctatgtg	ttttttgcaa	catatgagtg	ttttgaaaaa	2940
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<210> 336

<211> 147

<212> FRT

<213> Homo sapien

<400> 336

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102

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Leu Asp Ser	Glu Asn Thr Ser Gly Ala	Leu Pro Arg Leu Pro	Gln Thr
20	25	30	
Pro Lys Gln	Pro Gln Lys Arg Ser Arg Ala Ala	Phe Ser His Thr Gln	
35	40	45	
Val Ile Glu	Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala		
50	55	60	
Pro Glu Arg	Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln		
65	70	75	80
Val Lys Ile	Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln		
85	90	95	
Leu Ser Ser	Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala		
100	105	110	
Leu Lys Glu	Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn		
115	120	125	
Ser Tyr Pro	Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro		
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Ala Phe Trp			
145			

<210> 337
 <211> 9
 <212> PRT
 <213> Homo sapien

<400> 337
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<210> 338
 <211> 9
 <212> PRT
 <213> Homo sapien

<400> 338
 Leu Leu Ala Asn Asp Leu Met Leu Ile
 1 5

<210> 339
 <211> 318
 <212> PRT
 <213> Homo sapien

<400> 339
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 Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly
 35 40 45
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
 50 55 60
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
 65 70 75 80
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
 85 90 95
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
 100 105 110
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
 115 120 125
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met

130	135	140
His Ile Gly Val Asn His Leu Gly His Phe Leu Leu Thr His Leu Leu		
145	150	155
Leu Glu Lys Leu Lys Glu Ser Ala Pro Ser Arg Ile Val Asn Val Ser		160
	165	170
Ser Leu Ala His His Leu Gly Arg Ile His Phe His Asn Leu Gln Gly		175
	180	185
Glu Lys Phe Tyr Asn Ala Gly Leu Ala Tyr Cys His Ser Lys Leu Ala		190
	195	200
Asn Ile Leu Phe Thr Gln Glu Leu Ala Arg Arg Leu Lys Gly Ser Gly		205
	210	215
Val Thr Thr Tyr Ser Val His Pro Gly Thr Val Gln Ser Glu Leu Val		220
225	230	235
Arg His Ser Ser Phe Met Arg Trp Met Trp Trp Leu Phe Ser Phe Phe		240
	245	250
Ile Lys Thr Pro Gln Gln Gly Ala Gln Thr Ser Leu His Cys Ala Leu		255
	260	265
Thr Glu Gly Leu Glu Ile Leu Ser Gly Asn His Phe Ser Asp Cys His		270
	275	280
Val Ala Trp Val Ser Ala Gln Ala Arg Asn Glu Thr Ile Ala Arg Arg		285
	290	295
Leu Trp Asp Val Ser Cys Asp Leu Leu Gly Leu Pro Ile Asp		300
305	310	315

<210> 340

<211> 483

<212> DNA

<213> Homo sapien

<400> 340

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tggacactgg tggagggcgc tgtttagtgg gctgttttca gagggggtctt tcggagggac	120
ctccctgctgc aggcctggagt gtcctttattc ctggcgggag accgcaratt coactgttga	180
ggttggtgggg gcqgtttatc aggcagtgat aaacataaga tgtcatttcc ttgactccgg	240
ccttcaattt tctctttggc tgacgacgga gtccgtggtg tcccgatgta actgacccct	300
gctccaaacg tgacatcact gatgctcttc tcgggggtgc tgatggcccg cttggtcacg	360
tgctcaatct cggcatttga ctcttgctcc aaactgtatg aagacacctg actgcaagtt	420
ttttctgggc ttccagaatt taaagtgaag ggcagcactc ctaagctccg actccgatgc	480
ctg	483

<210> 341

<211> 344

<212> DNA

<213> Homo sapien

<400> 341

ctgtgtgtga gtoacagatt tcaattataaa tagcctcctc asggasaata cactgaatgc	60
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gctgcccac aaglatkaaa tatttttactt ctttccataa agagttagctc aaaatattga	180
attaallttaa caattttctgc tgatggtttt atctgcagta atatgtatat catctattag	240
catttactta ctgaasact gaggagaaca aaatttgtaa ccaactagcac ttaagtactc	300
ctgallctta acattgtctt taatgaccac aagacaacca acag	344

<210> 342

<211> 592

<212> DNA

<213> Homo sapien

<400> 342

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caatgtggaa acttcttata ctgggttcca ttatgaagtt ggacaattgc tgctatcaca	120
cctggcaggt aaaccaatgc caagagagtg atggaaacca ttggcagac tttgttgatg	180

accaggattg	gaattttata	aaaatatattgt	tgatgggaag	ttgctaaagg	gtgaattact	240
tccttcagaa	gagtgtaaag	aaaagtcaga	gatgctataa	tagcagctat	tttaatttgc	300
aagtgcact	gtggaagag	ttcctgtgtg	tgctgaagtt	ctgaaggcca	gtcaaatcca	360
tcagcatggg	ctgtttgggtg	caaattgcaa	agcacaggtc	tttttagcat	gctgggtctt	420
cccggtgcct	tatgcaata	atcgtcttct	totaattttc	tcctaggctt	cattttccaa	480
agttctctt	ggcttgtgat	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
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<210> 343

<211> 382

<212> DNA

<213> Homo sapien

<400> 343

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cttgtaactc	tcctttctcc	ttctctcccc	ttctctgccc	cgcctttccc	atcctgtgtg	180
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ctgactgccc	aagggggtcc	gaaccccagc	aatcccttcc	tttccactac	ttcttttttg	300
ggggtggttg	gaaagggactg	aaattgtggg	gggaaggtag	gaggccacatc	aataaagagg	360
aaaccaccaca	gclgaaaaaa	aa				382

<210> 344

<211> 536

<212> DNA

<213> Homo sapien

<400> 344

ctgggacctga	agctgtaggg	taaatcagag	gcaggcttct	gagtgatgag	aqlcctqaga	60
caataggcca	cataaacttg	gctggatgga	ccctcaccat	aaggaggtca	cctcttgttt	120
gttttagggg	atgcccaggc	taaggccagc	tcagttatat	gaagagaagc	agaacaaaca	180
agtctttcag	agaalggal	gcaatcagag	tgggatcccg	gtcacatcaa	ggtcacactc	240
caacttcacg	tacctgaatg	gttgccagggt	cagaaaaatc	caccccttac	gagtgccggt	300
tcgaacctat	atcccccgcc	cgcgtccctt	tctccataaa	attcttttta	gtagctatta	360
ccctcttatl	atttgatcta	gaaattgccc	tctttttacc	cctaccatga	gcctacaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
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<210> 345

<211> 251

<212> DNA

<213> Homo sapien

<400> 345

accttttgag	gtctctctca	ccacctccac	agccaccgtc	accgtgggat	gtgctggatg	60
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gcgtggguca	ggaaalcaaa	tccacacttg	cccaggagcc	agacacattt	atggaacaga	180
aaataacata	luggaattgg	agagacactg	ccaactggct	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346

<211> 282

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (282)

<223> n = A, T, C or G

<400> 346

cgcgtctctg	acactgtgat	catgacaggg	gttcaaacag	aaagtgcctg	ggccctcctt	60
------------	------------	------------	------------	------------	------------	----

ctaagtcttg	ttaccacaaa	aagggaabaag	aaaagatctt	ctcagttaca	aattctggga	120
agggagacta	tacctgggtc	ttgccctaag	tgagggtct	tccctccgc	accacaaaat	180
agaaaggctt	tctatttca	tgccccaggt	agggggaagg	agagttaact	tgagtcgtg	240
ggtctcattt	cccagggtgc	cttcaatgct	catnaaaacc	aa		282

<210> 347

<211> 201

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1) ... (201)

<223> n = A, T, C or G

<400> 347

acacacataa	tattataaaa	tgcacatata	ttggaaggag	ctttctatca	ttgcaagtca	60
taaatataac	ttttaaaana	ntactancag	cttttaccta	ngctcctaaa	tgcttgtaaa	120
tctgagactg	actggaccca	cccagaccca	gggcaaatat	acatgttacc	atatcatctt	180
tataaagaat	ttttttttgt	c				201

<210> 348

<211> 251

<212> DNA

<213> Homo sapien

<400> 348

ctgttaataa	caacattttgt	gcatacacttg	tgccaagtga	gaaaatgttc	taaaatcaca	60
agagagaaca	gtgccaagaat	gaaactgacc	ctaagtccca	ggtgcccttg	ggcaggcaga	120
aggagacact	cccagcatgg	aggagggttt	atcttttcat	cctagggtcag	gtctacaatg	180
ggggaagggt	ttattataga	actcccaaca	gcccacctca	ctcctgccac	cccccagatg	240
gccctgcttc	c					251

<210> 349

<211> 251

<212> DNA

<213> Homo sapien

<400> 349

taaaaalcaa	gccattttaat	tgtatctttg	saggtasaca	atatatggga	gctggatcac	60
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cagaagggtc	tgaactctac	gtgtttaccag	agaacataat	gcaattcatg	cattccactt	180
agcaattttg	taaaatacca	gaaacagacc	ccaagagtct	ttcaagatga	ggaaaattca	240
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<210> 350

<211> 908

<212> DNA

<213> Homo sapien

<400> 350

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cggtctggaat	tgcctctggt	atgatgacaq	agcaaatgat	ctcttccctc	qtgaacacaa	180
cacctgtaaa	tttgatgggg	aatgtttlaq	aattggagcc	acigtgactt	gctcttgtca	240
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ctgtgatatt	tgcaggtttg	gtgcagagtg	tgacgaagat	gccgaggatg	tctgggtgtg	480
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tatcaatatg	caggagccat	cttgcaagtg	tgatgctgg	tatactggac	aacctgtga	840
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aatcgacg						908

<210> 351
 <211> 472
 <212> DNA
 <213> Homo sapien

<400> 351						
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gtcaaacctt	aatgcccttg	ttattgtgaa	tiaggattaa	gtagtatttt	tcaaaattca	120
catttaacttg	attttanaast	cagwtttgyg	agtcattttac	cacaagctaa	atgtgtacac	180
tatgataaaa	acacaccattg	tattcctgtt	tttctaataa	gtcctaattt	ctaacaactgt	240
atatactctt	cgacatcaat	gaactttgtt	ttcttttact	ccagtaataa	agtaggcaca	300
gatctgtcca	caacaaactt	gcoctctcat	gcottgcctc	tcacocatgct	ctgctccagg	360
tcagcccccct	tttggcctgt	ttgttttgtc	aaaaacotaa	tctgottctt	gottttcttg	420
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<210> 352
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 352						
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naggctgcgt	tccgtcctta	ngatgaagac	cacgatgcag	tttccaaaca	ttggcactac	180
ctacatggaa	agggagggga	agccaaccca	gaatgggct	ttctctaata	ctgggatacc	240
aataagcaca	a					251

<210> 353
 <211> 436
 <212> DNA
 <213> Homo sapien

<400> 353						
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gataaggcaa	cttatacaatt	gacaaacca	atccaatata	tttaaacatt	tgggaalqg	240
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tcatgtctga	raaggccttc	cottcaalgg	ggatgacaaa	clccaatgc	cacacaaatg	360
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<210> 354
 <211> 854
 <212> DNA
 <213> Homo sapien

<400> 354						
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aggactttgc	caggtgcctt	gctaaaagcc	agatgcgttc	ggcaacttct	tggctgtagg	300
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caatatggaa	ggctctaaat	tgcocatatt	tgaataataa	attcagcttt	ttgtatataa	660
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<210> 355
 <211> 676
 <212> DNA
 <213> Homo sapien

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gggtgtctcat	ttgagtgtctg	tccagtgcac	tgtccaaagt	aalyagtaaa	attttaaggg	600
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gcttaaaagaa	aaccag					676

<210> 356
 <211> 574
 <212> DNA
 <213> Homo sapien

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catgtggcgc	ctgactggca	tcaaaccaaa	gttcgtaggc	caacaaagat	gggccaactca	120
caagcttccc	atttgtagat	ctcagtgcct	atgagtatct	gacacctgtt	cctctcttca	180
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aaaagtccac	aaaactgcag	tctttgtctg	gtatgttaagc	caagcagtcg	ctggacagca	300
gagttctttt	cttgggcaac	agataaccag	acaggactct	aatcgtgtct	ttatctaaac	360
ttcttctgtc	tctgcctaga	ctggaataaa	aagccaatct	ctctcgtggc	acaggaaggg	420
agatacaagc	togtttacct	gtgatagatc	taacaaaggc	atctaccgaa	gtctgggtctg	480
gatagacggc	acaggagct	cttaggtcag	cgtgtgtggt	tggaggacat	tcttgagtc	540
agctttgcag	cctttgtgca	acagtacttt	ccca			574

<210> 357
 <211> 393
 <212> DNA
 <213> Homo sapien

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aagccacaac	caaracttga	ttttatcaac	aaauaacctt	aaatatataac	ggsaaaaaag	180
atagatetaa	ttactccagt	tttttttaaa	cttaaaarat	attncattgc	cgaattaara	240
eraarataag	tgttatatgg	aaagaagggc	alicaagcac	actaaaraaa	cctgaggkaa	300
gcataactctg	tacaaaatta	aactgtcctt	tttggccttt	taacaaattt	gcaacgktct	360
tttttttttt	ttttgtgttt	tttttttttt	tac			393

<210> 358
 <211> 630
 <212> DNA
 <213> Homo sapien

<400> 358

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ttaatgttta	taggaaaatg	atgagtttat	gacaaaggaa	gtagatagt	ttttacaaga	120
gcataagata	gggagagtaa	tccagcacag	ggaggtcaca	gagacatccc	taagggaagt	180
gagtttaaac	tggagagagc	aagtgtctaa	actgaaggat	gtgttgaaag	agaagggaag	240
gtagagcaat	ttgggagag	ggaaaccttat	agaccttaag	gtgggaagg	tcaaagaact	300
gaagagagagc	tagaacagct	ggagccgttc	tccggtgtaa	agaggagtca	aagagataag	360
attaaagatg	tgaagattaa	gactcttggtg	gcattcagg	attggcactt	ctacaagaaa	420
tcactgaagg	gagtaatgtg	acattacttt	tcacttcagg	atggccattc	taactccagg	480
gggtagactg	gactaggtaa	gactggaggc	aggtagacct	cttctaaggc	ctgcgatagt	540
gaaagacaaa	aataagtggg	gaaattcagg	ggatagttaa	aatcagtagg	acttaatgag	600
caagccagag	gttcctccac	aacaaccagt				630

<210> 359

<211> 620

<212> DNA

<213> Homo sapien

<400> 359

acagcattcc	aaaatataca	tctagagact	aarrgtaaat	gctctatagt	gaagaagtaa	60
taattaaaaa	atgctaacta	tataganaat	ttataatcag	aaaaataaat	attcaggggag	120
ctcaccagaa	gaataaagt	ctctgccagt	tattaaagga	ttactgctgg	tgaatttaaat	180
atgguatccc	ccaagggaac	tagagagall	cttctggatt	algttcaata	tttatttcaa	240
aggattaaat	gttttaggaa	caqatataaa	gcttcgccac	qgaagagatg	gacaaagcac	300
aaagacaaac	tgatccctta	ggagagcaac	ctaccctttc	aggcaaaaaa	tttggagaaa	360
tgcaaccatta	tgcttcctga	ataakctgtg	gaagagaggt	ctgatgaaa	tgacatcctt	420
aattgtaaagt	aactttataa	gaattctggg	tcaaatataa	ctctttgaag	aaaaaatcca	480
aattgtcattg	acttatcaaa	tactatcttg	gcataatacc	tatgaaggca	aaactaatac	540
aacaaaaagc	tcacacccaa	caaaaaccatc	aacttatttt	gtattctata	acataccaga	600
ctgtaaagat	gtgacagtgt					620

<210> 360

<211> 431

<212> DNA

<213> Homo sapien

<400> 360

aaaaaaaaa	agccagagac	acatgtgata	gataatataa	ttggctgcac	acttcagagc	60
lgaatgaatg	tgaactgat	ggactattgl	atggagcaac	tcttcagcaa	gggggggaaa	120
tactcatcat	ttttggccag	cagttgtttg	atcaccaaac	atcatgccag	aatactcagc	180
aaactttctt	agctcttgag	aagtcaaaat	ccgggggaat	ttattcctgg	caattttaat	240
tggactcctt	atgtgagagc	agcggctaac	cagctggggg	ggtggagcga	acccgtcact	300
agtggacatg	cagtggcaga	gctcctggta	accaactaga	ggaatacaca	ggcacatgtg	360
tgatgccaaag	cgtgacacct	gtagcactca	aatttgtctt	gtttttgtct	ttcgggtgtgt	420
agattcttag	t					431

<210> 361

<211> 351

<212> DNA

<213> Homo sapien

<400> 361

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ttgggtctct	tggctctctt	ccagtttcc	cagccautcg	agggagaaat	atcgggaggt	180
ttgacttctc	ccggggcctt	cccgagggct	tcacccgtgag	ccctggaggc	ctcagggtctg	240
caatctctga	ctaatgtctc	gaacccctcg	tccttgctctg	ctggacttct	qaggcugtca	300
ctgcaactct	gtcctccagc	ctgacagct	ctcctatcgt	ggctctgttg	t	351

<210> 362

<211> 463

<212> DNA
<213> Homo sapien

<400> 362

acttcattcag	gccatcatgg	gtgcctcccg	tgagaatcca	agcaaccttg	gactgcgcga	60
tgtagatgag	ccggtcgaag	atcttgcgca	tgcgcggtt	cagggcgaag	ttcttggcgc	120
cccggtcac	agaaatgacc	aggttggtg	ttttcaggtg	ccagtgcctg	gtcagcagct	180
cgtaaaaggat	ttccgcgtcc	gtgtcgag	acagacgtat	atacttccct	ttcttcccca	240
gtgtctcaca	ctgaatatcc	ccaaaggcgt	cggtaggaaa	ttccttgggt	tgtttcttgt	300
agttccattt	ctcactttgg	ttgatctggg	tgcoctccat	gtgctggctc	tgggcatagc	360
cacacttgca	cacattctcc	ctgataagca	cgatggtgtg	gacagggaag	aaggatttca	420
ttgagcctgc	ttatggaaac	tggtattgtt	agcttaata	gac		463

<210> 363
<211> 653
<212> DNA
<213> Homo sapien

<220>

<221> misc feature
<222> (1) . . . [653]
<223> n = A, T, C or G

<400> 363

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tgggagggcc	tacgcaagat	gggactgcgt	cctgggggtga	gacatccctt	ccttggagat	180
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attttggaga	tccttgggtc	agaattccat	ttaccttctg	ggccagatag	caccagaaatg	600
ccgctccag	attccttcag	acctttggcc	gloccallat	tggtcatggt	ggc	653

<210> 364
<211> 401
<212> DNA
<213> Homo sapien

<400> 364

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aaaacaaggt	ggatagatct	agaattgtaa	cattttaaga	aaaccatagc	atttgacaga	180
tgagaaagct	caattataga	tgcaaaagta	taactaaact	uctatagtag	taaaagaaata	240
catttcacac	ccttcataata	aattcactat	cttggcttga	ggcactccat	aaaatgtatc	300
acgtgcatag	taaatcttta	tatttgcctat	ggcgttgcac	tgagggaatt	ggactgcac	360
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<210> 365
<211> 356
<212> DNA
<213> Homo sapien

<400> 365

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atgtttcagl	gctagagcgt	aggaatagac	cctggcgctc	actgtgagat	gttcttcagc	120
tccagagcca	tcaagtctct	gcagcaggtc	attottgggt	aaagaaatga	cttccacaaa	180
ctctccatcc	ccttgctttg	gcttcggcct	tggtttttcg	gcacatctct	cgttaattgg	240
gactgtcagc	atgtgtatag	tacagtttga	caagcctggg	tcacatacaga	ccgctggaga	300
acattcggca	atgtccctt	tgtagccagt	ttcttcttct	agctcccgga	gagcag	356

<210> 366
 <211> 1851
 <212> DNA
 <213> Homo sapien

<400> 366

tcacacacat	tgccagcagc	ggcacccgtta	gtcagggtttt	ctgggaatcc	cacatgagta	60
cttcacgtgtt	cttcattctt	cttcaatagc	cataaatctt	ctagctctgg	ctggctgttt	120
tcacttcctt	taagccctktg	tgactctctcc	tctgatgtca	gctttaagtc	ttgttctgga	180
ttgtctgttt	cagaagagat	ttttaacatc	tggttttctt	tgtagtcaga	aagtaactgg	240
caaattacat	gatgatgact	agaaacagca	tactctctgg	cogtctctcc	agatcttgag	300
aagatacatc	aacattttgc	tcaagtagag	ggctgactat	acttgctgat	ccacaacata	360
cagcaagtat	gagagcagtt	cttccatatac	tatccagcgc	atttaaatte	gcttttttct	420
tgattaaaaa	tttccaccat	tgctgttttt	gctcatgtat	accaagttagc	agtgggtgtga	480
ggccatgott	gttttttcat	tccatatacag	cacogtataa	gagcagtgct	ttggccattta	540
atttatcttc	attgtagaca	gcatagtgta	gagtgggtatt	tcataactca	tctggaatat	600
ttggatcagt	gccatgttcc	agcaacatta	agccacatto	atcttctctgg	cattgtacgg	660
cctttgtcag	agctgtcttc	tttttgttgt	caaggacatt	aagttgacat	cgtctgtcca	720
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tttgacaaaa	tccagcatcc	lctatcttat	tgttgcaagt	ctcagaggaa	atgcttctaa	1740
cttttcccca	tttcttatba	tgttggtctt	ggccttctca	taagtggttt	ttatttctti	1800
aaggtatgtc	ccttctatgc	ctgttttctt	gagggtttta	attctcgtgc	c	1851

<210> 367
 <211> 668
 <212> DNA
 <213> Homo sapien

<400> 367

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ttcagtattt	tgagataaaa	atttgtatag	ctataccttg	ttttttgatt	cgatatcagc	120
accrtataag	agcagtgtt	tgccatttaa	tttatcttcc	attttagaca	gortagtgya	180
gagtggattt	tcataactca	tctggaatat	ttggatcagt	gccaatgttcc	agcaacatta	240
acgacatttc	atcttctctg	cattgtacgg	cctgtcagta	ttagacccaa	aaacaaatta	300
catatcttaq	qaattccaaa	taacatlcac	uagctttcac	caactagtta	tattttaaagg	360
agaaaactca	tttttalqcc	atgtattgaa	atcaaacucca	cctcatgctg	atatagtgtg	420
ctaciqcata	cctttatcag	agctgtcttc	tttttggtgt	caaggacatt	aagttagcat	480
cgtctgtcca	gcaggagllt	lectacttcl	gaattcccat	tgccagaggc	cagatgtaga	540
gcaglcctat	cagagtgaga	agacttltta	ggaaattgta	gtgcactagc	tucagccata	600
gcaatgattc	atgleactgc	aaacactgaa	tagcctgela	ttactctgcn	ttcaaaaataa	660
aaaaa						668

<210> 368
 <211> 1512
 <212> DNA
 <213> Homo sapien

<400> 368

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gccttcatgg	agccraggta	ccacgtccgt	ggagaagatc	tggacaagct	ccacagagct	660
gcctgggtgg	gtaaaagtccc	cagaaaaggt	ctcatcgcca	tgtctaggga	cactgacgtg	720
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gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
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actccaagaa	aagttaaaaca	tgtttcagtg	aatagagatc	ctgctccttt	ggcaagttcc	1440
taaaaaacag	taatagatac	gagggtgatgc	gcctgtcagt	ggcaaggttt	aagatatctc	1500
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<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

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cctatgagac	taggctttga	gaatcaataq	attctttttt	taagaatctc	tgggttagga	1560
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ccagcctggg	tgacagagca	agactctgtc	tcacacacac	aaaaacacac	aaa	1853

<210> 370
 <211> 2184
 <212> DNA
 <213> Homo sapien

<400> 370

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aaaaccacct	atgacaagcc	cacagccaac	ataatactaa	atggggaaaa	gttagaagca	120
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ttattgactt	gcctgtgtta	gacgggaaga	gctgggggtg	ttctcaggag	ccaccgtgtg	300
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ggagtctctc	cttcatagtt	catccatattg	gctccagagg	aaaattatat	tattttgtta	480
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<210> 371
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 <212> DNA
 <213> Homo sapien

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<400> 371

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gccgccccg	cataacgcgc	agactggcct	gtaacggctt	gcaggcgac	gccgcacgcg	180
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<210> 372
 <211> 1059
 <212> DNA
 <213> Homo sapien

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<210> 373
 <211> 1155
 <212> DNA
 <213> Homo sapien

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<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

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<210> 375

115

<211> 2040
 <212> DNA
 <213> Homo sapien

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<210> 376
 <211> 329
 <212> PRT
 <213> Homo sapien

<400> 376
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 20 25 30
 Glu Tyr Thr Ile Val His Ala Ser Phe Ile Ser Cys Ile Ser Ser Ser
 35 40 45
 Leu Asp Gly Gln Gly Glu Arg Gln Glu Gln Arg Gly His Phe Trp Arg
 50 55 60
 Pro Gln Arg Leu Leu Cys Glu Asp Ala Trp Glu Gln Glu Val Gln Val
 65 70 75 80
 Val Leu Pro Leu Leu Pro Leu Leu Gln Gly Ser Gly Lys Ser Asn Val
 85 90 95
 Val Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe Met Asp Pro Arg Tyr
 100 105 110
 His Val His Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp
 115 120 125

116

Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
 130 135 140
 Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
 145 150 155 160
 Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
 165 170 175
 Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
 180 185 190
 Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
 195 200 205
 Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
 210 215 220
 Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
 225 230 235 240
 Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
 245 250 255
 Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
 260 265 270
 Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
 275 280 285
 Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu
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 305 310 315 320
 Ser Met Leu Phe Leu Val Ile Ile Met
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<210> 377
 <211> 148
 <212> PRT
 <213> Homo sapien

<220>
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 <223> Xaa = Any Amino Acid

<400> 377
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 35 40 45
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
 50 55 60
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
 65 70 75 80
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
 85 90 95
 Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 110
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Tyr Gly Ala Asp Ile Glu Ser
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 Lys Asn Lys Val
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<210> 378
 <211> 1719
 <212> PRT

<213> Homo sapien

<400> 378

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35      40      45
His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
50      55      60
Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
65      70      75      80
Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
85      90      95
Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
100      105      110
Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
115      120      125
Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
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Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
145      150      155      160
Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
165      170      175
Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
180      185      190
Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
195      200      205
Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
210      215      220
Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
225      230      235      240
Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
245      250      255
Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
260      265      270
Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
275      280      285
Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
290      295      300
Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
305      310      315      320
Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
325      330      335
Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His Val
340      345      350
Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
355      360      365
Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys
370      375      380
Pro Arg Thr His Met Val Glu Val Asp Ser Met Pro Ala Ala Ser
385      390      395      400
Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys
405      410      415
Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly
420      425      430
Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys
435      440      445
Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly
450      455      460
Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys

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465					470					475				480
Thr	Leu	Arg	Asn	Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro
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Cys	Arg	Gly	Ser	Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr
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Asp	Ser	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp
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Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys
	530					535					540			Asp
Leu	Ile	Val	Met	Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys
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Lys	Arg	Thr	Ala	Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu
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Val	Lys	Leu	Leu	Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp
		580						585					590	Asn
Lys	Lys	Arg	Thr	Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp
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Cys	Ala	Leu	Met	Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro
	610					615					620			Asp
Glu	Tyr	Gly	Asn	Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp
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Leu	Met	Ala	Lys	Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser
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Gln	Gln	Val	Val	Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn
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Leu	Asp	Arg	Tyr	Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys
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Ser	Ala	Ser	Ile	Val	Ser	Leu	Leu	Leu	Clu	Cln	Asn	Ile	Asp	Val
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Ser	Gln	Asp	Leu	Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser
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His	His	His	Val	Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys
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Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Phe	Lys	Gly	Ser	Glu	Asn
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Gln	Pro	Glu	Lys	Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly
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Arg	Glu	Val	Glu	Glu	Glu	Met	Lys	Lys	His	Glu	Ser	Asn	Asn	Val
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Leu	Leu	Glu	Asn	Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly	Asn	Gly	Asp
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Gly	Leu	Ile	Pro	Gln	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Asn	Gln	Gln
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Pro	Asp	Asn	Glu	Ser	Glu	Glu	Tyr	His	Arg	Ile	Cys	Glu	Leu	Val
	850					855					860			Ser
Asp	Tyr	Lys	Glu	Lys	Gln	Met	Pro	Lys	Tyr	Ser	Ser	Glu	Asn	Ser
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Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg
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Gln	Ser	Gln	Leu	Pro	Arg	Thr	His	Met	Val	Val	Glu	Val	Asp	Ser
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Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys
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Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp	Cys	Arg	His	Cys	Phe	Pro	Cys
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Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val	Gly	Ala	Ser	Gly	Asp	His	Asp
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Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn	Lys	Met	Gly	Lys	Trp	Cys	Cys
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Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val
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Gly	Glu	Asp	Leu	Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp	Gly	Lys
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Pro	Arg	Lys	Asp	Leu	Ile	Val	Met	Leu	Arg	Asp	Thr	Asp	Val	Asn
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Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala	Leu	His	Leu	Ala	Ser	Ala	Asn
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Asn	Ser	Glu	Val	Val	Lys	Leu	Leu	Leu	Asp	Arg	Arg	Cys	Gln	Leu
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Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr	Ala	Leu	Ile	Lys	Ala	Val	Gln
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Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn	Thr	Thr	Leu	His	Tyr	Ala	Ile
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His	Glu	Gln	Lys	Gln	Gln	Val	Val	Lys	Phe	Leu	Ile	Lys	Lys	Lys
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Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr	Gly	Arg	Thr	Ala	Leu	Ile	Leu
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Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile	Val	Ser	Leu	Leu	Leu	Glu	Gln
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Ala	Val	Ser	Ser	His	His	His	Val	Ile	Cys	Gln	Leu	Leu	Ser	Asp
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Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile	Ser	Ser	Glu	Asn	Ser	Asn	Pro
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Ser	Glu	Asn	Ser	Gln	Pro	Glu	Lys	Met	Ser	Gln	Glu	Pro	Glu	Ile
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Lys	Asp	Gly	Asp	Arg	Glu	Val	Glu	Glu	Glu	Met	Lys	Lys	His	Glu

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 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
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 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
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 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
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 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu
 500 505 510
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys
 515 520 525
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
 530 535 540
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
 545 550 555 560
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
 565 570 575
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
 580 585 590
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
 595 600 605
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
 610 615 620
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile
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 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
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<210> 380

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 <212> PRT
 <213> Homo sapien

<400> 380
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 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
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 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
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 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
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 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu

450		455		460
Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu				
465		470		475
Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp				480
	485		490	495
Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu				
	500		505	510
Asn Gly Gln Pro Glu Lys Arg Ser Gln Glu Pro Glu Ile Asn Lys Asp				
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Gly Asp Arg Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys Lys				
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His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly Ala				545
	550		555	560
Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser Arg				
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Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr His				
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Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln Asn				
	595		600	605
Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln Ile				
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Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys Lys				
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Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala				
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 <212> DNA
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<210> 382
 <211> 3279
 <212> DNA
 <213> Homo sapiens

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<210> 383

<211> 155

<212> PR3

<213> Homo sapiens

<400> 383

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Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
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His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
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Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
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Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
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Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala

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125

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Pro	Ser	Thr	Pro	Ser	Ser	Ile	Trp	Pro	Gln	Trp	Val	Ile	Leu	Ile	Thr
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Glu	Leu	Thr	Ile	Pro	Ser	Pro	Ala	His	Gly	Pro	Pro	Trp	Leu	Pro	Asn
	130					135				140					
Ala	Leu	Glu	Arg	Gly	His	Leu	Val	Arg	Glu						
	145				150										

<210> 384
 <211> 557
 <212> DNA
 <213> Homo sapiens

<400> 384
 ggatcctcta gagcgccgc ctactactac taaattcgcg gccggtcga cgaagaagag 60
 aagatgtgt ttgttttg actctctgt gtcccttcca atgctgtgg tttccaacca 120
 ggggaagggt cccttttgca ttgccaagt ccaataccat ggcactact ctaccatgg 180
 tctgectcct ggccaagcag gctggtttgc aagaatgaaa tgaatgatto tacagctagg 240
 acttaacctt gaaatggaaa gtcttgcaat cccatttgca ggatccgtct gtgcacatgc 300
 ctctgtagag agcagcatto ccagggacct tggaaacagt tggcaactga aggtgcttgc 360
 tccccaagac acatcctaaa aggtgttgta atggtgaaaa cgtcttccct ctttatttgc 420
 ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaaat 480
 tcaattgtga aattgattat catgcctata acttatgcga tttttttkta aaagttaaaa 540
 aaaaaaaa 557

<210> 385
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 385
 ttcccagggt atgtgcgagg gaagacacat ttaactatcct tgatggggct gattccttta 60
 gtttctctag cagcagatgg gttaggagga agtgacccaa gtggttgact cctatgtgca 120
 tctcaaagcc atctgctgtc ttcgagtacg gacacatcat cactcctgca ttgttgatca 180
 aaacgtggag gtgcttttcc tcagctaaga agcccttagc azaagctuga atagacttag 240
 tatcagacag gtccagtttc vgcaccaaca cctgctggtt cctgtcgtg gctcggatct 300
 ctttgccac caaktcccc ttttccacat cccgga 337

<210> 386
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 386
 gggcccgcta ccggcccagg ccccgccctcg cgagtccctcc tcccggggtg cctgcccgca 60
 gccgctcgg ccagagggt ggccgcggg ctgectctac cggctggcgg ctgtaactca 120
 gcgaccttg cccgaaggct ctagcaagga cccaccgacc ccagccgagg ccgcccggc 180
 gcggactttg cccggtgtgt ggccgaggag ggactgcgtg tccgaggacg ggcagcgaag 240
 atgttagcct tgcgtgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
 <211> 537
 <212> DNA
 <213> Homo sapiens

126

<400> 387

```

gggcccagtc gggcaccag ggactctttg caggcttccct tccctggatc atcaaggctg 60
ccccctctctg tgcacatcatg atcagcacct atgagttcgg caaaagcttc tccagagggc 120
tgaaccaggga ccggcttctg ggcggctgaa aggggcaagg aggcaggac cccgtctctc 180
caccggatgg ggaaggaggca ggaaggagcc cagccaagtg ccttttccctc agcactgagg 240
gaggggggctt gtttcccttc cctcccggcg ccaagctcca gggcaggggt gtccctcttg 300
gcggcccagc acttccctcg acacacactt tccctgctgc tccagtcgtg gggatcatca 360
cttaccacac ccccaggttc aagaccacat ctcccgctg cccctctcgt gtttccctgt 420
gtttgctgta gctgggcctg tctccaggaa ccaagagcc ctcagcctgg tgtagtctcc 480
ctgacccctg ttaatttctt aagtcctaaag atgatgaact tcaaaaaaaa aaaaaaaa 537

```

<210> 388

<211> 520

<212> DNA

<213> Homo sapiens

<400> 388

```

aggataattt ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60
tgaggttaaa ccagtttgca ttccoctaat gtggaaaaag taagaggact actcagcact 120
gtttgaagat tgcctcttct acagcttctg agaattgtgt tatttcaact gccaaagtga 180
ggacccccctc cccaacatgc ccagccccc cctaagcat ggtcccttgt caccaggcaa 240
ccaggaaact gctacttgtg gacctcacca gagccaggga ggggtttggt agctcacagg 300
acttccccc cccagagaaga ttagcatccc atactagact catactcaac tcaactagga 360
tcatactcaa ttgatgggta ttagacaatt ccatttcttt ctggttatta taacagaaa 420
atctttcclo ttctcattac cagtaaagga ccttgggtatc tttctgttgg aatgatttct 480
atgaacttgt attattttaa tgggtgggttt tttttctggt 520

```

<210> 389

<211> 365

<212> DNA

<213> Homo sapiens

<400> 389

```

cgttgcccc gtttgacaga aggaaggcg gagcttattc aaagtctaga gggagtgag 60
gagttaaggc tggatttcag atctgctgg ttccagccgc agtgtgccct ctgctcccc 120
uacgactttc caataatct caccagggcc ttccagctca ggcgtctag aagcgtcttg 180
aagcctatag ccagctgtct ttgtgttccc tctaccgcgc ctgtctcac agctgagact 240
cccaggaaac cttcagacta ccttccctctg ccttcagcaa ggggcgttgc ccacattctc 300
tgagggtcag lggaggaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
q44ag 365

```

<210> 390

<211> 221

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (1)...(221)

<223> n = A, T, C or G

<400> 390

```

tgcctctcca tccctggccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
tacacggntt ctcatgggtg tggaacatct ctgcttgcgg ttccagggaag gcctctggct 120
gctctangag tctgancuga ntggttggcc cantntgaca naaggaaagg cggagcttat 180
tcaaaagtcta gaggagtgag aggaqtlazg gctggatttc a 221

```

<210> 391

<211> 325

<212> DNA

<213> Homo sapiens

127

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 391
 tggagcaggt cccgagggcct ccctagagcc tggggccgac tctgtgncga tgcangcttt 60
 ctctcgccgc cagcctggag ctgclccctgg catctacca caalcagncg aggcagcag 120
 tagccagggc actgctgcc aagccagtc cnnatccat catgtnaccc ggtgngctct 180
 naantngat ntccanagcc ctaccatcn tagtctgct ctcccacgg ntaccagccc 240
 cactgcccag gaatectaca gccagfccc tglcccgac tctctaccta ccagtaacgat 300
 gagacctcug gctactacta tgacc 325

<210> 392
 <211> 277
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(277)
 <223> n = A,T,C or G

<400> 392
 atattgttta actccttccct ttatatcttt taacattttc atggngaag gttcacatct 60
 agtctcactt nggcnagngn ctctactctg agtctcttcc cgggctggn ccagtnghaa 120
 antaccanga accgncatgn cttaanacen ncctggttfn tgggttnntc aatgacacga 180
 tgcagtgca caccctgtcc actacgtgat gutgtaggat taaagtctca caglgggcgg 240
 ctgaggatac agcgccgggt cctgtgttgc tggggaa 277

<210> 393
 <211> 566
 <212> DNA
 <213> Homo sapiens

<400> 393
 actagtcacag tgtggtggaa ttgcggccg cgtcgacgga caggtcagct gtctggetca 60
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga ttaaattcag cctaaaagtt 120
 ttgocgggaa cactgcagag acaatgctgt gaggtttucac ccttagccca tctccgggca 180
 gagaaggctc agtttgcca tcagcattat catgatata ggaactggta ctgggttaa 240
 gaggggtcta ggagatctgt cctttttaga guvacottac ttatgatga glatittqga 300
 ggggtggttt caaagtaga aatgtctgt attccgalga tcatctgla aacattttat 360
 catttattaa tcatuactgc ctgttcttat tatttatatc atctctctac gctggaaact 420
 ttctgcttca atglttactg tgcctttgtt ttctgctgll tglgttgttg aaaaaaaaa 480
 cattctctgc ctgagtttca attttgloc aaagttattt taatctatac aattaaaagc 540
 ttttgccctat caaaaaaaaa aaaaaa 566

<210> 394
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(384)
 <223> n = A,T,C or G

<400> 394
 gaacatacat gtcccggcac ctgagctgca gtctgacatc atcqucatca cgggctctgc 60
 tgcaaatng gaccgggcca aggetggact gctgggagct gtgaaggagc tacaggccna 120
 gcaggaggac cgggctttta ggagttttta gctgaglgto acigttagacc cccaaalacc 180
 tcccaagatt atcgggagaa agggggcagt aattacccaa atccggttgg agcatgacgt 240

```

gaacatccag tttctgata aggacgatgg gaaccagccc caggaccbaa ttccatcac 300
agggtagcaa aagsacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
tgagcagatg gtttctgagg acgt                                     384

```

```

<210> 395
<211> 399
<212> DNA
<213> Homo sapiens

```

```

<400> 395
ggcaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtqac 60
tgtgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
tatcagaggt ttcatcattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
attcaogtct ttccagtacc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgaagt 300
caagttctct ttggaagcc tgggcatctc ctcaactacg acctctgacc atgggacggg 360
gcagcctggg gagaccatcc aatcccaaat aaaatgcac                                     399

```

```

<210> 396
<211> 403
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(403)
<223> n = A,T,C or G

```

```

<400> 396
tggagtnttc agtgcasaca agccataaag cttcagtagc aaattactgt ctcaacagaa 60
gacattttca acttctgctc cagctgctga taanaacaaat catgtgttta gcttgactcc 120
agacaaggac aacctgttcc ttcataactc tctagagaaa aaaaaggagtt gttaytagat 180
actaasaaaa gtggatgaat aatctggata tttttcctaa aagattctct tgaacacac 240
taggaasatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
gtttagggga gggagtgagg gatannagaa ggaasaaaaa aagaytgaga aaacctatt 360
atcaagcag gtgctatcac tcaatcttag gccctgctct ttt                                     403

```

```

<210> 397
<211> 100
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(100)
<223> n = A,T,C or G

```

```

<400> 397
actagtnbca tgtgggtggaa ttccgggccc cgtcguceta naanccatcl ctatagcaaa 60
tccatccbcg ctctggttg gtnacagaat gactgacaaa                                     100

```

```

<210> 398
<211> 278
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

```

```

<400> 398

```

129

```

gaggccgagc  cagacagcagt  tccgcacagcg  ctgcgccctg  ggtgggggatg  tgcctgcacgc  60
ccacctggac  atcttggaagt  cagcggccctg  gatgaaagag  cggacctcac  ctggggcgat  120
tcactactgt  gccctcgacca  gtgaggagag  ctggaccgac  agcggggtgg  actcatcatg  180
ctcggggcag  cccatccacc  tgtggcagtl  cctcaaggag  ttgctautca  agcuccacag  240
ctatggccgc  ttcattangt  ggcaccaaca  ggaagagg

```

<210> 399
 <211> 298
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(298)
 <223> n = A,T,C or G

```

<400> 399
acggaggtgg  aggaagcgnc  cctgggatcg  anaggatggg  tccgncatt  gacnccctcn  60
ggggtgccng  catggagcgc  atgggcgcgc  gccggggcca  cggcatggat  cgcgtgggct  120
ccgagatcga  gcgcattggc  ctggctatgg  accgcattgg  ctccgtggag  cgcattggct  180
ccggcattga  gcgcattggc  ccgctgggcc  tcgaccacat  ggccctccac  attganccga  240
tgggcccagc  catggagcgc  attggctctg  gcgtggagcn  catgggtgcc  ggcattgg  298

```

<210> 400
 <211> 548
 <212> DNA
 <213> Homo sapiens

```

<400> 400
acatcaacta  ctctctcatt  llaagggtatg  gcagttccct  tcctcccttt  ttcctgccll  60
gtacatgtac  atgtatgaaa  ttctctctct  ttaccgaaat  ctctccacac  atcacaaggt  120
caaagaacca  cagcgttaga  agggtaagag  ggcaccctat  gaaatgaaat  ggtgatttct  180
tgagtctctt  ttttccacgt  ttaaggggccc  atggcaggac  ttagagttgc  gagttaagac  240
tgcagagggc  tagagaatta  ttcatatcag  gctttgaggc  caccatgtgc  acttatcccg  300
tataccctct  caccatcccc  ttgtctactc  tgatgccccc  aagatgcaac  tgggcagcta  360
gttggcccca  taattctggg  cctttgttgt  ttgttttaat  tacttgggca  tcccaggaag  420
ctttccagtg  atctctacc  atgggcccc  ctctgggat  caagcccttc  ccaggccctg  480
tccccagccc  ctctgcccc  agcccccccc  cttgccttgg  tgcctagccc  tccatttggg  540
agcaggtt

```

<210> 401
 <211> 355
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(355)
 <223> n = A,T,C or G

```

<400> 401
actgtttcca  tgttatgttt  ctacacattg  ctacctcagt  gctcctggaa  acttagcttt  60
tgatgtctcc  aagtagtcca  ccttcattta  actctttgaa  actgtatcat  ctttgccaag  120
taagagtggt  ggcctatttc  agctgctttg  acaaatgac  tggctcctga  cttaacgttc  180
tataaatgaa  tgtgctgaag  caaagtcccc  atggtggcgg  cgaagaagan  aaagatgtgt  240
tttgttttgg  actctctgtg  gtcccttcca  atgctgnggg  tttccaacca  ggggaagggt  300
cccttttcca  ttgccaagtg  ccataaccat  gagcactact  ctaccatggn  tctgc  355

```

<210> 402
 <211> 407
 <212> DNA
 <213> Homo sapiens

130

<220>
 <221> misc_feature
 <222> (1)...(407)
 <223> n = A,T,C or G

<400> 402
 atggggcagg ctggatagg aacccaganc cactggagla lgctgtcttc aagaaaccca 60
 tctcacatgc ggtggcatat ataggctcaa aataaaggaa tggagaaaaa tatttcaagc 120
 aatggaaaa cagaaasaag caggtgttgc actcctactt tctgacaaaa cagactatgc 160
 gaataaagat aaaaaagaga aggcattac aaaggtggtc ctgacctttg ataatctca 240
 ttgcttgaata ccaacctggg ctgttttaat tgcccaaacc aaaggataa ttigtgagg 300
 ttgtggagct tctccctgc agagagtccc tgatctccca aaatttggtt gagatgtaag 360
 gntgatattg ctgacaaactc cttttctgaa gttttactca ttccaa 407

<210> 403
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(303)
 <223> n = A,T,C or G

<400> 403
 cagtatttat agccnaatg aaaaactagt agcaggcaag tctcaaatcc aggcacccaa 60
 tcttaagcaa gggccatggc atggtgaaaa tgcaaaaggc gagctggcc aatctacaa 120
 tagagaccaa gacctactca gtcatgaaca aaaggcaga ccccaacatg gatctcatgg 180
 gggatggat attgtaatta tagagcaggc agatgcacgt gatcglaclt tggcacacaa 240
 tcttaacaac gaccgaacc cattatttac ataaacctcc attcggtaac catgttgaaa 300
 gga 303

<210> 404
 <211> 225
 <212> DNA
 <213> Homo sapiens

<400> 404
 aagtgttaact tttaaaaatt tagtgggttt tgaattctct tagaggaaag taaaggaaaa 60
 attgtlaatg cactcattta ccttlacatg gtgaaagttc tctcttgatc ctacaaacag 120
 acattttcca ctggtglttc catagttgtt aagtgtatca gatgtgttgg gcattgtgaat 180
 ctcccaagtg cllgtgtaata aataaagbat ctttatttca ttcct 225

<210> 405
 <211> 334
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(334)
 <223> n = A,T,C or G

<400> 405
 gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg tctggaggac 60
 ttcaatacac ctcccccat agtgaatcag ctccagggg gtccagtccc tctccttact 120
 tcatcccat cccatgcca aggaagacc tccctccttg gctcacagcc ttctctaggc 180
 ttccagtg ctccaggaca gagtgggtta tgttttcagc tccatccttg ctgtgagttg 240
 ctgggtcggt tatgcctcca gcttctgctc agtgcctcat ggaacagtgc cagcccatgt 300
 cactctccc cctctcannq tggatcccc cctt 334

<210> 406
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 406
 ttctacacct aatgagggag ttganatnac atnnaaccag gaaatgcatg gatctcaang 60
 gaaacsaaca cccaataaac tcggagtggc agactgacaa ctgtgagaca tgcacttgct 120
 acnaaacaca aatttnatgt tgcaccccttg tttctacacc tgtgggttat gacaaagaca 180
 actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 407
 gctgacttgc tagtatcatc tgcattcatt gaagcacaag aacttcacgc ctctgactcat 60
 gttaattgcaa taggattaaa aaataaattt gatattcacat ggaacacagc aaaaaatatt 120
 gtcaaacatt gcaacccagt tgcagattcta caactggcca ctgaggaagc aagagttaat 180
 cccagaggtc tatgtcttaa tgtgttatgg caaatgqatg tcatgcaagt accttcattt 240
 ggaatatlgt cattttgtcc tgtgacaglt gatacttatt cacatttcat atgggcaacc 300
 tgcacagacay gagaaaaglt loccatgtta aaagaccllt attatcttgt ttctctgtca 360
 tgggagttcc agaaaaagtc aaaaacagcc algggacagg tctctgtagt aag 413

<210> 408
 <211> 183
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 408
 ggaagctngcc ctcaattcccl ccatntctat gttancalal ttaatgtell ttgnnattoo 60
 tnccttaacta gttaatecctt aaagggttan ntaatcctta actagtcnct ccatlgtgag 120
 cattatecctt ccagtattcn ccttctnttt tatttactcc ttcctggcta cccatgtaot 180
 ntt 183

<210> 409
 <211> 250
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 409
 cccagcgcag ataagutctt latllctgta agtccctgcta ggaatcctc aaatctgacg 60
 gtgtgtttgg ggaacctgaac aaacctccctg taattcttca gclltoagtt tctcccccta 120
 gtccctcctt caacaaacala ggaggalcat ccccttclll ctgctcaagg ccttatctag 180
 gcltccaglt gcccccagga cagcgtgggc tatgtttaca gggontcett gctggggggg 240
 ggcantatgc 250

132

<210> 410
 <211> 306
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{306}
 <223> n = A,T,C or G

<400> 410
 ggctggtttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaastggaa 60
 agtcttgcaa tcccatTTgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120
 cccaggagacc ttggaaacag ttggcactgt aagggtgcttg ctccccaaga cacatccta 180
 aaggtgttgt aatggtgaaa accgcttccct tctttatttg cccttcttat ttatgtgaac 240
 nactggttgg ctttttttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
 tontgc 306

<210> 411
 <211> 261
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{261}
 <223> n = A,T,C or G

<400> 411
 agagatattt cttaggtnaa agttcataga gtcccatga actatatgac tggccacaca 60
 ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
 tttaaatgto tgaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
 aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccayc 240
 cttctctcaa gngagggcaa a 261

<210> 412
 <211> 241
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{241}
 <223> n = A,T,C or G

<400> 412
 gttcaatgtt acctgacatt totacaacac cccactcacc gatgtattcg ttgccagtg 60
 ggaacatacc agcotgaatt tggaaaaaat aattgtgttt cttgccagg aantactacg 120
 actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180
 ctgggagatt tcactgggta cattgaattc ccaactacc cangcaatta cccagccaac 240
 a 241

<210> 413
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{231}
 <223> n = A,T,C or G

```

<400> 413
aactcctaca atccaagtga ctcactctgtg tgcctgaate ctttccactg tctcctclcc 60
ctcctccaaag tttctagtag cttctctttg ttgtgaggga taatcaaac tgaacaccaa 120
aagtttcaact tctcctattg gaacctaaaa actctcttct tctgggtctc gagggtctcc 180
agaatccttg aatcattct cagatcattg gggacccan atcagggaac t 231

```

```

<210> 414
<211> 234
<212> DNA
<213> Homo sapiens

```

```

<400> 414
actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60
gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaaag gagggagggt cttccttttg catgggatgg ggatgaagta aggagaggga 180
ctggaccccc tggaaactga ttcactatgg ggggaggtgt attgaagtcc tcca 234

```

```

<210> 415
<211> 217
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{217}
<223> n = A,T,C or G

```

```

<400> 415
gcaaggaggt aagactgagt atcttttcta cttctttta actttctcag gggcacttct 60
caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cactttctca 120
cacttagcaa tagtagaatt cagtctact tctgaggcca gaagaatggt tcagaaaaat 180
antggattat aaaaaataac aattaagaaa aataatc 217

```

```

<210> 416
<211> 213
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{213}
<223> n = A,T,C or G

```

```

<400> 416
atgcataatnt aaagganact gctctgcttt tagaagacat ctggnetgct ctctgcatga 60
ggcacagcag taaagctctt tgattccag aatcaagaac tctcccttc agactattac 120
cgaatgcaag gtggttaatt gaaggccact aattgatgct caaatagaag gatattgaat 180
atattggaac agatggagtc tctactacaa aag 213

```

```

<210> 417
<211> 303
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{303}
<223> n = A,T,C or G

```

```

<400> 417
nagtcctcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60

```

134

```

gtgggaagg ctttactctg agttcaaatc ttcaagccca tcagagagtc cacactggag 120
agaagccata caaatgcaat gagtgtggga agagcttcag gagggatcc cattatcaag 180
ttcatctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaggggct 240
tcantcaag ttcgtatctt caaatccctc ngagggacca cagtatanan aaacctttta 300
agt

```

```

<210> 418
<211> 328
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{328}
<223> n = A,T,C or G

```

```

<400> 418
tttttggcgg tgggtggggca gggacgggac angagtctca ctctgttgcc caggctggag 60
tgcacaggca tgatctcggc tcaactacaa cctgctccat catgtccaag cgattcttgt 120
gcctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180
gtatttttag tagagacagg gtttcaccat gttggccagg ctggtctcaa actcctnacc 240
tcagngtca ggctggtctc aaactcctga cctcaagtga tctgccacc tcagcctccc 300
aaagtgcctn gattacagga cgtgagcc

```

```

<210> 419
<211> 389
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{389}
<223> n = A,T,C or G

```

```

<400> 419
cctcctcaag acggcctgtg gtcgcctcc cggcaaccaa gaagcctgca gtgccatag 60
acccctgagc catggactgg agcctgaaag gcagcgtaca cctgctcct gatcttgctg 120
cttgttctct ctctgtggct ccattcatag cacagtgtgt gcactgagga ttgtgcaggc 180
cgagcaaggc caagtctggt caaagagcaa ccagtcaact ctgucacggg gtgccaggca 240
ccggttctcc agccaccaa ctcactcgct cccqcaaatg gcacatcagt tctctaccc 300
taaaggtagg accaaagggc atctgcttct ctgaagtecl ctgctctatc agccatcaag 360
tggcagccac tenggctgtg tgcgcagg

```

```

<210> 420
<211> 408
<212> DNA
<213> Homo sapiens

```

```

<400> 420
gttctctcta actcctgcca gaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggtt tcttgttct gcttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggt gtttcggcat ggagaccgaa 180
gtccatttga cactcttccc actgacccca taaagggaat ctcattggca caaggatttg 240
gccaaactca cagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat gagtccata aacatgaaca gttttatatt cgaagcacag 360
acgttgaccg gactttgatg aagtgcctat acaaacctgg caagcccg

```

```

<210> 421
<211> 352
<212> DNA
<213> Homo sapiens

```

<220>
 <221> misc_feature
 <222> (1)...(352)
 <223> n = A,T,C or G

<400> 421
 gctcææææat cttttttactg atnggcatgg ctacacaatc attgaactatt acggaggcca 60
 gaggagaatg æggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
 ttcaactgaca gaacaggctct tttttgggtc cttcttctcc accacnatac acttgcagtc 180
 ctecttcttg aagattcttt ggcagtgctc tttgtcataa cccacagggtg tagaaacaag 240
 ggtgcæacat gaaattttctg tttcgttagca agtgcagtc tcacaagttg gcangtctgc 300
 cactccagagt ttattgggtg tttgtttcct ttgagatcca tgcatttctt gg 352

<210> 422
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 422
 atgccaccat gctggcaatg cagcggggcg tcnaggccct gcatatccag cccaagctgg 60
 cgatgatoga cggcaaccgt tgcccgaagt tgccgatgcc agcugaagcg gtggtcaagg 120
 gogatagcaa ggtgccggcg atcgcgcg cgctcæatcct ggccaaggctc agccgtgctc 180
 gtgaaatggc agctgtogaa ttgatctæcc cgggttatga catcggcggg calaagggtc 240
 atccgacacc ggtgcæcctg gaagccttgc ægggctggg gccgæcgccg attææccgæc 300
 gctttcttcg cgggtæcggc lggcctctga ææattat 337

<210> 423
 <211> 310
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(310)
 <223> n = A,T,C or G

<400> 423
 gctcææææat cttttttactg atctggcætg gctæcæææat cæltgæctat tagaggccag 60
 æggagaatga ggcctggccct gggaæccctg tgccctacta æagcæcatta gattatccat 120
 tæactgæcag ææcæggctt ttttgggtcc ttcttctcæa cæcægatata cttgcagtc 180
 tæcttcttg ægattcttg gcagttgtct ttgtcataac cæcæagggtg ænaææcæagg 240
 gtgcææcætg ææatttctg ttcgttagcaa gtgcagtcct cæcagttgtc aagtctgccc 300
 tæcgagttta 310

<210> 424
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(370)
 <223> n = A,T,C or G

<400> 424
 gctcææææat cttttttactg atagguatgg ctacææææatc attgaactatt agaggccaga 60
 ggagaatgag gcctggcctg ggaæccctgt gctæactaga agcæcattæg ættalæcætl 120
 cactgæcæga æcaggtctt tttgggtcct tættctcææc ææcægatææc ttgcagtcct 180
 ccttcttgæa gattcttttg cægttgctt tægtcæææææ cæcæagggtgæ gæææææcct 240
 ggttgaatct cttggaæctc cctcættægg lætgæææææg æætgætgæat tæcæææægt 300
 cæcæææægtg gææææatcæ ææcægtgæc ææggææææææ ttcættgtgæ læægcæggæc 360
 tæcgtægæc 370

136

<210> 425
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 425
 aattgctatn ntttattttt ccaactcaaa taattacca aaaaaa tnttaaata 60
 taaccaacna acatcaaggn aaananaaca ggaatggntg actntgcata aatnggcoga 120
 anattatcca ttatnttaag ggttgacttc aggnacagc acacagacaa acatgcccag 180
 gaggnnttca ggacccgctcg atgtnttntg aqgagg 216

<210> 426
 <211> 596
 <212> DNA
 <213> Homo sapiens

<400> 426
 ctccagtgga ggataaccct gttgccccgg gccgagggttc tccattaggc lclgattgat 60
 tggcagtcag tgatggaagg gtgttctgat cattccgact gccccagggt tgcgtggcca 120
 gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatggtga 180
 gctgtccctg tattttgatt aacctaatgg ccttcccagc acgactcggg ttcagctgga 240
 gacatcaogc caacttttaa tgaatgatt tgaagggcca ttaagaggca ctccccgtta 300
 ttaggcagtt catctgcact gataacttct tggcagctga gctggtcgga gctgtggccc 360
 aaacgcacac ttggcttttg gttttgagat acaactctta atcttttagt catgcttgag 420
 ggtggatggc ctfttcagct ttaaccccat ttgcactgcc ttgggaagtgt agccaggaga 480
 atacactcat atactcgtgg gcttagaggg cacagcaaat gtcattggtc tactgcctga 540
 gtcccgctcg lcccatccca ggaccltcca tccgcgagta cctgggagcc cgtgct 596

<210> 427
 <211> 107
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(107)
 <223> n = A,T,C or G

<400> 427
 gaaagaattca agtttaggttt attcaagggg cttacngaga atccctanacc caggncaccag 60
 cccgggaqca gccctanaga gctcctgttt gautgcccgg ctcaagg 107

<210> 428
 <211> 38
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(38)
 <223> n = A,T,C or G

<400> 428
 gaacttcna anaangactt tattcaatat ttacatt

38

<210> 429

<211> 544
 <212> DNA
 <213> Homo sapiens

<400> 429
 ctttgctgga cggaataaaa gtggacgcaa gcctgaccto ctgaltgagg cgtctgcat 60
 attgaagagc ggctgcagcc ctgcgggtca gattaaaato cgggattgt alagacgccg 120
 atatccacga actcttgaag gactttctga tttctccaca atcctctcat cgggtttcag 180
 tttggatggt ggctcatcac ctgtagaacc tgaattggcc gtggctggaa tccactcgtt 240
 gccttccact tcagttacac ctactcacc atcctctcat gttggttctg tctgtcttca 300
 agatactaag cccacatttg agatgcagca gccctctccc ccaattcttc ctgtccatcc 360
 tgatgtgcag ttaaaaaatc tgcctcttca tgatgtcttc gatgttctca tcaagccac 420
 gacttttagt caaagcagta ttcagcatt tcaaggagag ttttttattt ttgctttgac 480
 aactcaaca gttagagaga tctgcctatc cagggtttt ttgccaggtg gtaggagaga 540
 ttat 544

<210> 430
 <211> 507
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 430
 ottatcncaa tggggctccc aaacttggct gtgcagtgya aautccgggg gaattttgaa 60
 gaacactgac acccatcttc caccocgaca ctctgattta altgggctgc aglgagaaca 120
 gagcatcaat ttaaaaagct qcccagatg tctctctggg cagcgttctg atctttgccn 180
 ccttctgtgav ttttatgcaat gcatcatgct atttcatacc taatgaggga gttccaggag 240
 attcaaccag gatgttllla cncctgtggg ttatgacaaa gacaactgcc aaagaatntt 300
 uaagaaaggag gactgcaagt atatcgtggt ggagaaagaa gacccaaaaa agacctgttc 360
 tctcagtgaa tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
 cattctcttc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaagat 480
 (tttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431
 <211> 392
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(392)
 <223> n = A,T,C or G

<400> 431
 gaaatattcag aatggatasa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60
 aasuaagaaa gcacttctca ggaggactta caaatggaag tacactctan aaccatcatc 120
 tatcatggct aactgtgaga ttagcacagc tgtattattc gtacattgca aacacctaga 180
 aagagatggg aaaaaaatc ccaggagttt tgtgtgtgga gtccctgggt ttccaacaga 240
 catcattlcca gcatctctgag attagggnga ttggggatca ttctggagtt ggaatgttca 300
 acaaaagtga tgttgttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
 gcaatgagtc tggcttttac tctgctgttt ct 392

<210> 432
 <211> 387
 <212> DNA
 <213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(387)
 <223> n = A,T,C or G

<400> 432
 ggtatccta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60
 aaatgcaagg caacatgtgt agatctcttg tottattctt ttgtctataa tactgtattg 120
 ngtaqtccaa gctctcggna gtccagccac tngaaacat gctcccttta gattaacctc 180
 gtggacnctn ttgttgnatt gtctgaactg tagngccctg tatittgtct ctgtctgnga 240
 attctgttgc ttctggggca tttccttng atgcagagga ccaccacaca gatgacagca 300
 atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtac aggaccggga 360
 acaacgtata gaacactgga gtccitt 387

<210> 433
 <211> 281
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(281)
 <223> n = A,T,C or G

<400> 433
 ttcaactlaga anagaanaact gcttcagggn gtgtaaaatg aaaggcttcc acgcagttat 60
 ctgattcaag aacactaaga gagggaacag gctagaagcc gcaggatgtc tacactatag 120
 cgggcncat ttgggttggc tggaggagct gtgaaaaca tggagagatt ggcgtggag 180
 atcgccgtgg ctattcctcn ttgntattac accagngagg ntctctgtnt gccactggt 240
 tnnaaaaccg ntatacaata atgatagaat aggaacaca t 281

<210> 434
 <211> 484
 <212> DNA
 <213> Homo sapiens

<400> 434
 ttttaaaata agcatttagt gctcagtcoc tactgagtag totttctctc cctcctctg 60
 aatttaattt tttcaacttg caatttgcaa ggattacaca tttaactgtg atgtatattg 120
 tgttgcaaaa aaaaaaaagt gtctttgttt aaattactt ggtttgtgaa tccatcttgc 180
 tttttcccc ttggaactag tcattaaccc atctctgaac tggtagaaaa acatctgaag 240
 agctagtcta tcagcatctg acaggtgaat tggatggttc tcagaacctt ttacccaga 300
 cagcctgttt ctatcctgtt taataaatta gtttgggttc tctaatgca taacaaaccc 360
 tgcaccaate tgtcacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaac 420
 tttattttt tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taccatgtc 480
 ttt 484

<210> 435
 <211> 424
 <212> DNA
 <213> Homo sapiens

<400> 435
 ggcgcgtctc gagcaggtna ctttctgctt tccacgtcct ccttcaagga agccccatgt 60
 gggtaqcttt caatatcgca ggttcttact cctctgcctc tataagotca aaccaccaa 120
 cgtacgggca agtaaacccc ctccctcgcc gacttcggaa ctggcgagag ttcagcgag 180
 atgggcctgl ggggaggggg caagatagat gagggggagc ggcatggtgc ggggtgaacc 240
 cttggagaga ggaaaaaggc cacaagaggg gctgccaccg ccactaacgg agatggcct 300
 ggtagagacc tttgggggtc tggaaacctt ggactcccca tgccttaact cccacactct 360
 gctatcagaa acttaaacctt gaggattttt tctgtttttt actcgcaata aattcagagc 420
 aacc 424

<210> 436

139

<211> 667
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(667)
 <223> n = A,T,C or G

<400> 436
 accttgggaa naactctcaca atataaaggg tcgtagaactt tactocanet tccaaaaagg 60
 tccctggccat gtaatccga aagttttccc aaggtagcta taanacott atagggtgc 120
 agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg naaacgggg 180
 cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcacggg 240
 atgggctgcc agagtaggat aggtatccag atgctgaac cttctggggg aaacagggct 300
 gccaggtttg tcatagcaat catcauagtc cagtcacagt ctgtgcltgc aatataaac 360
 tgttcatgtt tataggactc attcaagaat lltctatata tcttcttat atactctca 420
 agttcataat gctgctccat gcccgctgg gtyagttggc caaatcctg tggccatgag 480
 gattccctta tgggttcagt gggaaaaggc lcaatgggc ttcggtctcc atgccgaac 540
 accaaagtca caaucttcaa ctcttggtc agtacacttc ggtctagcca gaaaaaagc 600
 agaaacanga agccaaggcl aaggcltgc gccctgccag gagggagggt gcagctctca 660
 tgttgag 667

<210> 437
 <211> 693
 <212> DNA
 <213> Homo sapiens

<400> 437
 ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaagatat taagtgaact 60
 acacagccag gtaaggaaag ctggtttggc acaactaggc tctaccalac cgggttttgt 120
 taaagctcag gttaggaggc tgataagctt ggaagggaat tcagacagct ttttcagatc 180
 ataaaagata attcttagcc catgtttctc kccagagcag acctgaaatg acagcacagc 240
 aggtactcct ctattttcac cctctttgct tolactclcl ggcagtcaga cttgtgggag 300
 gccatgggag aaagcagctc totggtatgt tgtacagatc atggactatt ctctgtggac 360
 catttctca ggttaacctc ggtgtcactc ttgggggggac agccagcatc tttagcttct 420
 atttgagltt ctgltctgclt tcagtagagg aaacttttgc tcttcacact tcacatctga 480
 accclaat gctgttgctc ctgaggttgt gaaagacaga tatagagctt acagtattta 540
 tctattttct aggcactgag ggctgtgggg taccttgttg tgccaaaaca gatcctgttt 600
 taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctctttacc 660
 ctgcatcatg tgctctcttg gctgaaaatg acc 693

<210> 438
 <211> 360
 <212> DNA
 <213> Homo sapiens

<400> 438
 ctgcttatca caatgautgt tctcctgggc agcgttgtga tctllqccac cttcgtgact 60
 ttatgcaatg catcatgcta ttccalaccl aatgaggagg ttccaggaga ttcaaccagg 120
 atgttctctc acctgkgggg tatgacaaag acactgcca aagaatcttc aagaaggagg 180
 actgcaagta tatctggttg agcagaagga cccaaaaaag acctgttctg tcagtgaatg 240
 gataatctaa tgtgcttcla gtaggcagag ggctccagg ccaggctca ttctctctg 300
 gccctataa qtcataat qhgtagccat gctctcagt aaaaagattt ttgagcaaac 360

<210> 439
 <211> 431
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(431)

<223> n - A,T,C or G

<400> 439

```

gttcctnnta actcctgcca gaaacagctc tcttcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttct tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgacttttgt gtttcggcat ggagaccgaa 180
gtcccatlga cacttttccc actgacccca taaaggaaac ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgctga cgcggccgcg 420
aatttagtag t

```

<210> 440

<211> 523

<212> DNA

<213> Homo sapiens

<400> 440

```

agagataaag cttaggtcaa agttcataga gttcccatga actatctgac tggccacaca 60
ggatcttttg tatttaaggc ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaatgtc taaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
uggaaggaaa gatgtgaata ggcagctggc caaaaaacca atttaccat cagttccagc 240
cttctctcaa gggggggcaa agaaaggaga tacagtggag acatctggaa agttttctcc 300
actggaaaaa tgctactatc tgtttttata tttctgttaa aatatatgag gctacagaac 360
laaaaaattaa aacctctttg tgtcccttgg tcttggaaca tttatgttcc ttttaaagaa 420
acaaaaatca aactttacag aaagatttga tgtatgtaac acatatagca gctcttgaag 480
tatatatatc atagcaaata agtcatctga tgagaacaag cta

```

<210> 441

<211> 430

<212> DNA

<213> Homo sapiens

<400> 441

```

gttcctccta actcctgcca gaaacagctc tcttcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttct tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgacttttgt gtttcggcat ggagaccgaa 180
gtcccatlga cacttttccc actgacccca taaaggaaac ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attccttgat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgctga cgcggccgcg 420
aatttagtag

```

<210> 442

<211> 362

<212> DNA

<213> Homo sapiens

<400> 442

```

ctaaggaaatt agtagtggtc ccataacttg ttggggtgt gclattctaa aagattttga 60
tttcttgga tgaacattat attttaactt tgggtgggga aagggttata ggaccacagt 120
cttcaacttct gatacttgta aattaatctt ttatlgcact tgttttgccc attaagctat 180
atgttttagaa atgggtcattt tacggaaaaa ttggaagaaat tctgataata gtgcagaata 240
aatgaattaa tgttttaactt aatttataat gaactgtcaa tgacaaataa aaattctttt 300
tgattatttt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
tc

```

<210> 443

<211> 624

<212> DNA

<213> Homo sapiens

[41]

<220>
 <221> misc feature
 <222> (1)...(624)
 <223> n = A,T,C or G

```
<400> 443
ttttttttttt gcaacacaaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60
ttgaaagaat taaattcaga ggaggggaga gaaagagtac tcagtaggga ctgagcacta 120
aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
tgcctggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
cccaaacacac agaaaatggg gtgaaattgg ccaactttct attaacttgg ctccctgttt 300
tataaatatat tgtgaatat atcacctact tcaaagggca gttatgaggc ttaaatgaac 360
taacgcctac aaaaacacta aacatagata acatagggtg aagtactatg tatctggtac 420
ctggtaaaaca tccttattat taaagtcaac gctaaaatga atgtgtgtgc atatgcta 480
agtacagaga gagggcactt aaaccaacta agggcctgga ggggaaggtt cctggaaaga 540
ngatgcttgt gctgggtcca aatcttggtc tactatgacc ttggccaat tatttaaac 600
ttgacctat ctgctaaaaa gac 624
```

<210> 444
 <211> 425
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(425)
 <223> n = A,T,C or G

```
<400> 444
gacacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtgg 60
gaagctttgt ccaggccctgt gcttgaaccc aatgttttgc ttagaaatag aacaaagtgg 120
ttcatttgcta tagcataaca caaaattttgc ataagtgtgt gtcagcaaat ccttgaattg 180
tgcttaattgt gagaggttgg taatatccct tctgcaaacac tctaactccc tgaatgtttt 240
gctgtgctgg gacclgtgca tgcacagcaa ggcacagctg gctgaaaggc caaccagcca 300
cctctgcaat ctgccacctc ctgctggcag gcttctgttt tgcclccctg gaagagccaa 360
ggaggcacca gggcataagt gagtagactt atggtcgagc cggccgcgaa tttagtagta 420
gtaga 425
```

<210> 445
 <211> 414
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(414)
 <223> n = A,T,C or G

```
<400> 445
catgtttctg nttttggelt actttggqaa cctagtgttt ctuaatcgtc tctcattctt 60
ttctgtttttt caaaagcaga galqgcaga gclcaacaa actgtatctt caaqtctttg 120
tgaaattctt tgcattgtgc agcltcttgg atgtagtctt ctttaactag catataaact 180
tggtgtgttt cagataaetg aacagcaaaa tcttgttgaa ttaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gatlatglaa caaataacta tttactaacc attgatcttt 300
ggatttttat aatcctactc acaaatgaat aggcctctcc tcttgtattt tgaagcagtg 360
tgggtgctgg attgataaaa aaaaaaaagc tgcgcgcgac cgcgaattta gtac 414
```

<210> 446
 <211> 631
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{631}
 <223> n = A,T,C or G

<400> 446
 acaaatagga anaaagtggc agagAACacc acataccttg tccggaacat tacaatggct 60
 tctgcacgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcagggtgtg 120
 atgctgggtta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttgttc 180
 cuggtccctgt acgatctcag tatgtcttaa tgcgaqctgt gattggaaac attcagattg 240
 ctgtcatctg tgtggtggtc ctctgcacaa caagggccaa actttaaggtc atagcattgg 300
 actgagattt gtaaaccttc caaccttcca ggaatgccc cagaagcaac aqaaltcaca 360
 gacagaagca aatcacaggg cactacagtt cagaacatac aacaaagggc tccacggagg 420
 taatctaaag ggagcatgtt tccagtggtc tggactcccg agagccttga ciacacata 480
 cagtatattt gacaaagggc taagacaaga gatctacaca Lgttgccctg cctttgttgt 540
 aatclacacc aakgaaacaa tgtctacag ctatatattg tctgtatgg atatatattg 600
 aatagtatac attgctctga tgtttttct g 631

<210> 447
 <211> 585
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{585}
 <223> n = A,T,C or G

<400> 447
 ccttgggaas antntacaa ctataaggggt cgtcgacttt actccaaatt ccaaaaaggt 60
 cctggccatg taalactgaa agttttccca aggtagctat aaatcctta taagggtgca 120
 gccctctctg gaattcctct gatttcaaag tctcactctc aagtctctga aaacgagggc 180
 agttcctgaa aggcaggtat agcaactgat ctccagaaag aggaactgtg tgcaccggga 240
 tgggtgcca gaggaggata ggattccaga tctgacacc ttctggggga aacagggtctg 300
 ccaggtttgt catagcactc atcaaagtcc ggtcaacgtc tgtgcttoga atataaacct 360
 gttcatgttt ataggactca ttcaagaatt ttctatatct ctttcttata tactctccaa 420
 gttcataatg ctgtcccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
 attcctttat ggggtcagtg ggaaggtgt caatgggact tcggtctcca tgcgaaaca 540
 ccaagtcac aaacttcaac tccctggcta gtacacttgg gtcta 585

<210> 448
 <211> 93
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{93}
 <223> n = A,T,C or G

<400> 448
 tgcctcgtggg tcattctgan nncogaactg accntgccag ccttgcrgan ggccnccat 60
 ggcctccctag tgcctggag agganggggc tag 93

<210> 449
 <211> 706
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

143

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

ccaagtccat	gctntgtgct	ggacgctgga	caggggggcaa	aagcnnittgc	tcgtgggtca	60
ttctgancac	cgaactgacc	atgccagccc	tgcgatggt	cctccatggc	tccttagtgc	120
cctggagagg	aggtgtctag	tcagagagta	gtcctggag	gtggcctctg	ngaggagcca	180
cggggacagc	atcctgcaga	tggctcggcg	cgctccatcc	gcctatccag	ctgcgcact	240
gttggtgagg	gcgatcggcg	cgggcctctt	cgtctctacg	ccagclggcg	aaaggggqat	300
gtgctgcaag	gcgatccagt	tgggtaacgc	cagggttllc	ccagtcncga	cgttgtaaaa	360
cgacggccag	tgaattgaal	ctagglgacn	ctataggaag	gctalggcgt	cgcahgcaag	420
cgtaagtaag	cttggatcct	ctagagcggc	cgcctactac	tactaaattc	gcggccgcgt	480
cgacglggga	tcnccactga	gagagtgag	agtgaratgt	gctggacnct	gtccatgaag	540
cactgagcag	aagctggagg	cacaacgcnc	cagacactca	cagctactca	ggaggctgag	600
accaggttga	acctgggagg	tggaggttgc	aatgagctga	gatcaggccn	ctgcncccca	660
gcctggatga	cagagtgaas	ctccatctta	aaaaaaaaaa	aaaaaa		706

<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

gagacggagt	gtcactctgt	tgccagggct	ggagtgcagc	aagacactgt	ctaagaaaaa	60
acagttttta	aaggtaaaac	aacataaaaa	gaaatatcct	atagtggaaa	taagagagtc	120
aaatgaggct	gagaacttta	caaggggac	ttacagacut	gtcgccata	tcactgcatg	180
agcctaagta	taagaacaa	ctttggggag	aaaccatcat	ttgacagtga	ggtacaaatc	240
caagtcagggt	agtgaatttg	gtggcaattta	actcaaatla	atcctgcccag	ctgaaaucca	300
agagacactg	tcagagagti	aaaaaagtgg	ttctatccat	gggttgaatc	cacagttctc	360
tcaggtcaac	acatctgtga	actcacagac	caagttctla	aacnaactgt	caaaactctgc	420
lacacatcag	aatcacctgg	agagctttac	aaactcccat	tgccgagggt	cgacgcggcc	480
gcgaattttag	tag					493

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 451

gggcggctcc	cattcgccal	tcaggctgcg	caactgttgg	gaagggcgat	cggtcgcggr	60
ctctlnccta	ttacgccagc	tggcgasagg	gggatgtgct	gcaagggcgat	taagttgggt	120
aaagccaggg	ttttccaggt	cncgacgttg	taaaacgacg	gccagtgaat	tgaatttagg	180
lgacnctata	gaagagctat	gacgtcgcat	gcacgcgtac	gtaagottgg	atcctctaga	240
gcggccggcct	actactacta	aattcgcggc	cgcgtcgacg	tgggatccnc	actgagagag	300
tggagagtga	catgtgctgg	acnctgtcca	tgaagcactg	agcagaagct	ggaggcacia	360
cgcncagagc	actcacagct	actcaggagg	ctgagaacag	gttgaacctg	ggaggtggag	420
gttgcaatga	gctgagatca	ggcncctgcn	cccagcatg	gatgacagag	tgaactcca	480
tottaaaaaa	aaaaaaaaaa	a				501

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(51)

<223> n = A,T,C or G

<400> 452

agacgggttc accnttacaa cnccttttag gatgggnntt ggggagcag c 51

<210> 453

<211> 317

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1) ... (317)

<223> n = A,T,C or G

<400> 453

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tacatcttgc tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa 60
acatctgaag agctagtcta tcagcatctg gcaagtgaat tggatgggtc tcagaacct 120
ttcaccana cagcctgttt ctatcctgtt taataaatta gtttgggtc tctacatqca 180
taaccaaccc tgcctcaatc tgtcacataa aagtctgtga cttgaagttt antcagcacc 240
cccacaaac tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaaataagg 300
taccatgtc tttatta 317
```

<210> 454

<211> 231

<212> DNA

<213> Homo sapiens

<400> 454

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ttcagaggtac aatcaactct cagagtgtag ttctcttcta tagatgagtc agcattaata 60
taagccacgc cagcctcttg aaggagtctt gaattctcct ctgtcactc agtagaacca 120
agaagaccas attcttctgc atcccagctt gcaaacaaaa ttgttcttct aggtctccac 180
ccttctttt tcagtgttcc aaagctcttc acaatttcat gaacaacagc t 231
```

<210> 455

<211> 231

<212> DNA

<213> Homo sapiens

<400> 455

```
taccaaagag ggcataatua tcagtctcac agtaggggtc accctctcc aagtgaaaaa 60
cattgttccg aatgggcttt ccccgaggca cacacacaaa acaggaaaca tgccaagttt 120
gttccaacgc attgatgact lctccaagga tcttcttttg gcacagacca cattcagggg 180
caccgaattt clcatagcac agctcacaat acagggctcc tttctctct a 231
```

<210> 456

<211> 231

<212> DNA

<213> Homo sapiens

<400> 456

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ttggcaggta ccttacaaa gaagacacca taccttatgu gttattaggt ggaataatca 60
ttccattcag tattatcggtt attattcttg gagaanccct gtctgtttac tgtaaccttt 120
tgcactcaaa ttcttttate aggaataact acatagccau tatttacaaa gccattggaa 180
cctttttatt tgggtgcagct gctagtcatg cctgactga cattgccaag t 231
```

<210> 457

<211> 231

<212> DNA

<213> Homo sapiens

<220>

145

<221> misc_feature
 <222> {1}...{231}
 <223> n = A,T,C or G

<400> 457
 cgaggtaacc aggggtctga aaatctctnn ttantagtc gatagcaaaa ttgttcatca 60
 gcattcccta atatgatctt gctataatta gatttttctc cattagagtt catacagttt 120
 tatttgattt tattagcaat ctctttcaga agacccttga gatcattaag ctttqtatcu 180
 agttgtctaa atcgatgcct catttccctc gaggtgtcgc tggcttttgt g 231

<210> 458
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 458
 aggtctgggt cccccactt ccactccctt ctactctctc taggactggg ctgggccaaag 60
 agaaagaggg tggttagggg agccgttgag accctgaagcc ccacctcta ccttccctca 120
 acaccctaac ctctggtaac agcatttggg attatcattt ggcatgagta gaatttccaa 180
 ggtccctgggt taqacattt gggggggccag accccaggag aagaagattc t 231

<210> 459
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 459
 ggtaccgagg ctctgtgaca cagagaaacc ccaacgcgag gaaagggaatg gaaagccaca 60
 ccttcgcgaa acctgtggtg gccacaccagt cctaaaggga caggacagag agacagagca 120
 gccctgcaat gtttccctc caccacagcc atcctgtccc tcattggctc tctgcttcc 180
 actatcacaa gtccaccgtc caatgagaaa caaggaggag caccctccac a 231

<210> 460
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 460
 gcaggatata catgctgcaa caacagatgt gactaggaac ggccgggtgac atggggagggt 60
 cctatcacc cttcttggg ggtctgttct tcacagtgat catgaagcct agcagcaaat 120
 cccacctccc cacacgcaca cggccagcct ggagcccaca gaagggtcct cctgcaquca 180
 gtggagcttg gtccagcctc cagtccacco ctaccaggct taaggataga a 231

<210> 461
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 461
 cqaggtttga gaagctctaa tgtgcagggg agccgagag caggcggcct agggagggtc 60
 gcgtgtgtct cagaagagtg tgtgcattgcc agaggggaaa caggcgcctg tctgtcctgg 120
 gtgggggtca gtgaggagtg ggaaatttgt tcagcagaac caagccgttg ggtgaataag 180
 aggggggattc catggcactg atagagccct atagtttccg agctgggaat t 231

<210> 462
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 462
 aggtaccctu attgtagcca tgggaaatt gatgttcagt ggggatcagt gaattaaatg 60
 gggtcattgca agtataaaa ttaaaaaaa aagacilcat gcccaatctc atctgatgtg 120

146

gaagaactgt tagagagacc aacagggttag tgggttagag atttcagag tcttacattt 180
tctagaggag gtatttaatt tcttctcact catccagtgt tgtatttagg a 231

<210> 463

<211> 231

<212> DNA

<213> Homo sapiens

<400> 463

tactccagcc tgggtgacaga gcgagacct atcaaccgcc cccaccccac caaanaaaaa 60
actgagtaga cagggtgtcct ctgggcattg taagtcttaa gtccctctcc agatctgtga 120
catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtga gaaanaggca 180
tggggagggtg gatcttccag tcgaagcggg atagaagccc gtgtgaaaag c 231

<210> 464

<211> 231

<212> DNA

<213> Homo sapiens

<400> 464

gtactctaa gtttctctc agttgccttt tctgggtggg aaagttaa cttagtgaact 60
aaggacatca catatgaaga atgtttaagt tggagggtgg aacgtgaatt gcaaacaggg 120
cctgcttcag tgactgtgtg cclgtagtcn cagctactcg ggagtcctgt tgaggccagg 180
ggtgcnacag caccagctag atgctctgta acttctaggg cccattttcc c 231

<210> 465

<211> 231

<212> DNA

<213> Homo sapiens

<400> 465

catgttgttg tagctgtggt aatgctgggt gcctctcaga cagggttaac ttcagctcct 60
gtggcaaat agcaacaaat tctgacatca tatttatggt ttctgtatct ctgttgatga 120
aggatggcac aattttttgt tgtgttcata atatactcag attagttcag ctccatcaga 180
taaaactggag acatgcaggc cattagggtg gtgttgtagc tctggtaatg a 231

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

caggtaacct ttccatttgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
ggccttcgaa cagaacttgc cacataacca ggtataatag ttctaacat ttgccaggga 120
cctgtgcaat caaatattgt ggagaattcc ctgactggag aagtcacaaa gactatagga 180
aataatggag accagtccca caagatgaca accagtctgt gtgtgaggct g 231

<210> 467

<211> 311

<212> DNA

<213> Homo sapiens

<400> 467

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tgtgcttaa cagaaggtct tgagallctc agtgggaatc atttcagtga ctgtcatgtg 180
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ctgcagcaga c 311

<210> 468

<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

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aagatctgca tgggtgggaag gacctgatga tacagagltt gataggagac aatfaaaggc 120
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aacctcatag tatcttatat aatatacttc ccccaaggt catttcatc 2880
agcttttca agatttcat ggcacaaatc actggctact ttgatgtgt 2940
tgagtgcgct ttagaatttt aagaaatag ggcaactctg tagagccact 3000
tttgtccttg tagttaattg aagaaatag ggcactcttg tagagccact 3060
tcttggaact aaagaattta caaagagcaa aaaaaaa aaaaaaa 3112

```

<210> 469

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 469

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agctctttgt aaatttcttta ttgccaggag tgaaccctaa agtggetcac aagagtgcac 60
tatttctttc aatttaactac aaggacaaac acatctcaaa gttgagataa gtgaccagta 120
tgatttgcca aaattctaaa gcgcactcac catgaaatgg ataaagggtta cctttgggga 180
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aatggcaat 2229

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<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

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caaaattcta aagcgcactc accatgaat ggataaaggf tacctttggg gatttgcaat 180
gcatgaattc tgtgaaaagc ttgttgata ttgtgataa gacagagaa tgagatatat 240
tatataagat actatgaggt tccctgcctt tctctcauat ccaggctta caaacgtgcc 300
cctaatacat tccclctgtg gctcttgcat ttcalatall tatctaaact cttataatca 360
aattacactt ttagtatttg clqctctatg tgatgatgaa lclcataigt gtcccttctt 420
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aanaagttaa tctgtgtata ttatggaaat gacattttga ggtcttgaga atgggcacaa 900
aagtgggaaa tgaatttcag tatggcaca gacactgagg atgatgttga ttagataatt 960
cactccgtaa tgatcatgct gtgtgctagt aagtataacc ctggaaagat cttgagatgc 960

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agaaagggtca cagtcacagat ctgggaacta aatattaaee atgagtgtgg ctggatatat 1140
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<210> 471

<211> 812

<212> DNA

<213> Homo sapiens

<400> 471

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gagatcagat attacacag ctttgttttg agggliagaa etelgeaalq attcggttat 180
gaacgcacag tttaggcagc agggcccaqaa tctqaccet ctgcccngtg gttatctctt 240
ccccagcttg gctgcctcat gtcctcacag tattccattt tgtttgttgc atgtcttctg 300
aagccatcaa gattllctclog tclgtlllcc tctcattggg aatgctcact ttgtgacttc 360
atttcaaatc tgaatcccg ttcaaataaa tatccacaa caggatctgtt ttctgcccc 420
tcclltaagg eacacatcaa ttcattttct aatgtcttct cctcacaagc gggaccaggc 480
aagggcgag gctcatcgat gaccacagat ggcggccggg cattctccc agggatctct 540
gtccttccct ttgtgcttcc tgtgtgtgtg gatatttaaa ggggctggaa atgtgcaaaa 600
acatgtcact acttagacat tataztgtca tcttgcctgt tctagtgtatg ttaattatct 660
ccatttcagc agatgtgtgg cctcagatgg taaagtccagc agcctttctt atttctcacc 720
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cacaatatct cctctctgtt ttctgatgcc ag 812

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<210> 472

<211> 515

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(515)

<223> n = A,T,C or G

<400> 472

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cttatgactt tccatcatc cttatttaata aataatacag cccagagaag atgaaaatgg 120
gttccaggaat tattggtctt tgcagcccg gcaatctcag caagagggaac caccaactga 180
caatccaggat attgaacctg gacaagagag agaaggaaca cctccgatcg aageacgtaa 240

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150

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agtagaagggt gattgccagg aatggatctt ggaasagact cggagtggagc gtggagatgg 300
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agatgggcag ccataagtta aagaagagac aagctgaagc tacacacatg gctgatgtca 420
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<210> 473

<211> 750

<212> PRT

<213> Homo sapiens

<400> 473

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Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser Ser Asn Glu
      35                                40                        45
Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu
      50                                55                        60
Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu Tyr Asn Phe Thr Gln Ile
      65                                70                        75                        80
Pro His Leu Ala Gly Thr Glu Gln Asn Phe Gln Leu Ala Lys Gln Ile
      85                                90                        95
Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His
      100                               105                        110
Tyr Asp Val Leu Leu Ser Tyr Pro Asn Lys Thr His Pro Asn Tyr Ile
      115                               120                        125
Ser Ile Ile Asn Glu Asp Gly Asn Glu Ile Phe Asn Thr Ser Leu Phe
      130                               135                        140
Glu Pro Pro Pro Pro Gly Tyr Glu Asn Val Ser Asp Ile Val Pro Pro
      145                               150                        155                        160
Phe Ser Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr
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Val Asn Tyr Ala Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met
      180                               185                        190
Lys Ile Asn Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val
      195                               200                        205
Phe Arg Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly
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Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys
      225                               230                        235                        240
Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Gly Val Gln Arg Gly
      245                               250                        255
Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro Gly Tyr

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Pro	Ala	Asn	Glu	Tyr	Ala	Tyr	Arg	Arg	Gly	Ile	Ala	Glu	Ala	Val	Gly
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Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro	Asp	Ser	Ser	Trp	Arg
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Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	Pro	Gly	Phe	Thr	Gly	Asn
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Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	Ile	His	Ser	Thr	Asn	Glu	Val
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Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	Thr	Leu	Arg	Gly	Ala	Val	Glu	Pro
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Asp	Arg	Tyr	Val	Ile	Leu	Gly	Gly	His	Arg	Asp	Ser	Trp	Val	Phe	Gly
	370					375					380				
Gly	Ile	Asp	Pro	Gln	Ser	Gly	Ala	Ala	Val	Val	His	Glu	Ile	Val	Arg
	385					390					395				
Ser	Phe	Gly	Thr	Leu	Lys	Lys	Glu	Gly	Trp	Arg	Pro	Arg	Arg	Thr	Ile
				405					410					415	
Leu	Phe	Ala	Ser	Trp	Asp	Ala	Glu	Glu	Phe	Gly	Leu	Leu	Gly	Ser	Thr
			420					425					430		
Glu	Trp	Ala	Glu	Glu	Asn	Ser	Arg	Leu	Leu	Gln	Glu	Arg	Gly	Val	Ala
		435					440					445			
Tyr	Ile	Asn	Ala	Asp	Ser	Ser	Ile	Glu	Gly	Asn	Tyr	Thr	Leu	Arg	Val
	450					455					460				
Asp	Cys	Thr	Pro	Leu	Met	Tyr	Ser	Leu	Val	His	Asn	Leu	Thr	Lys	Glu
	465					470					475				480
Leu	Lys	Ser	Pro	Asp	Glu	Gly	Phe	Glu	Gly	Lys	Ser	Leu	Tyr	Glu	Ser
				485					490					495	
Trp	Thr	Lys	Lys	Ser	Pro	Ser	Pro	Glu	Phe	Ser	Gly	Met	Pro	Arg	Ile
			500					505					510		
Ser	Lys	Leu	Gly	Ser	Gly	Asn	Asp	Phe	Glu	Val	Phe	Phe	Gln	Arg	Leu
		515					520					525			
Gly	Ile	Ala	Ser	Gly	Arg	Ala	Arg	Tyr	Thr	Lys	Asn	Trp	Glu	Thr	Asn
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Lys	Phe	Ser	Gly	Tyr	Pro	Leu	Tyr	His	Ser	Val	Tyr	Glu	Thr	Tyr	Glu
	545					550					555				560
Leu	Val	Gln	Lys	Phe	Tyr	Asp	Pro	Met	Phe	Lys	Tyr	His	Leu	Thr	Val
				565					570					575	
Ala	Gln	Val	Arg	Gly	Gly	Met	Val	Phe	Glu	Leu	Ala	Asn	Ser	Ile	Val
			580					585					590		

152

Leu Pro Phe Asp Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala
 595 600 605
 Asp Lys Ile Tyr Ser Ile Ser Met Lys His Pro Gln Glu Met Lys Thr
 610 615 620
 Tyr Ser Val Ser Phe Asp Ser Leu Phe Ser Ala Val Lys Asn Phe Thr
 625 630 635 640
 Glu Ile Ala Ser Lys Phe Ser Glu Arg Leu Gln Asp Phe Asp Lys Ser
 645 650 655
 Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu
 660 665 670
 Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg
 675 680 685
 His Val Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser
 690 695 700
 Phe Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp
 705 710 715 720
 Pro Ser Lys Ala Trp Gly Glu Val Lys Arg Gln Ile Tyr Val Ala Ala
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 Phe Thr Val Gln Ala Ala Ala Glu Thr Leu Ser Glu Val Ala
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<210> 474
 <211> 386
 <212> PRT
 <213> Homo sapiens

<400> 474
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 Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
 35 40 45
 Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
 50 55 60
 Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
 65 70 75 80
 Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
 85 90 95
 Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
 100 105 110
 Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
 115 120 125
 Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His

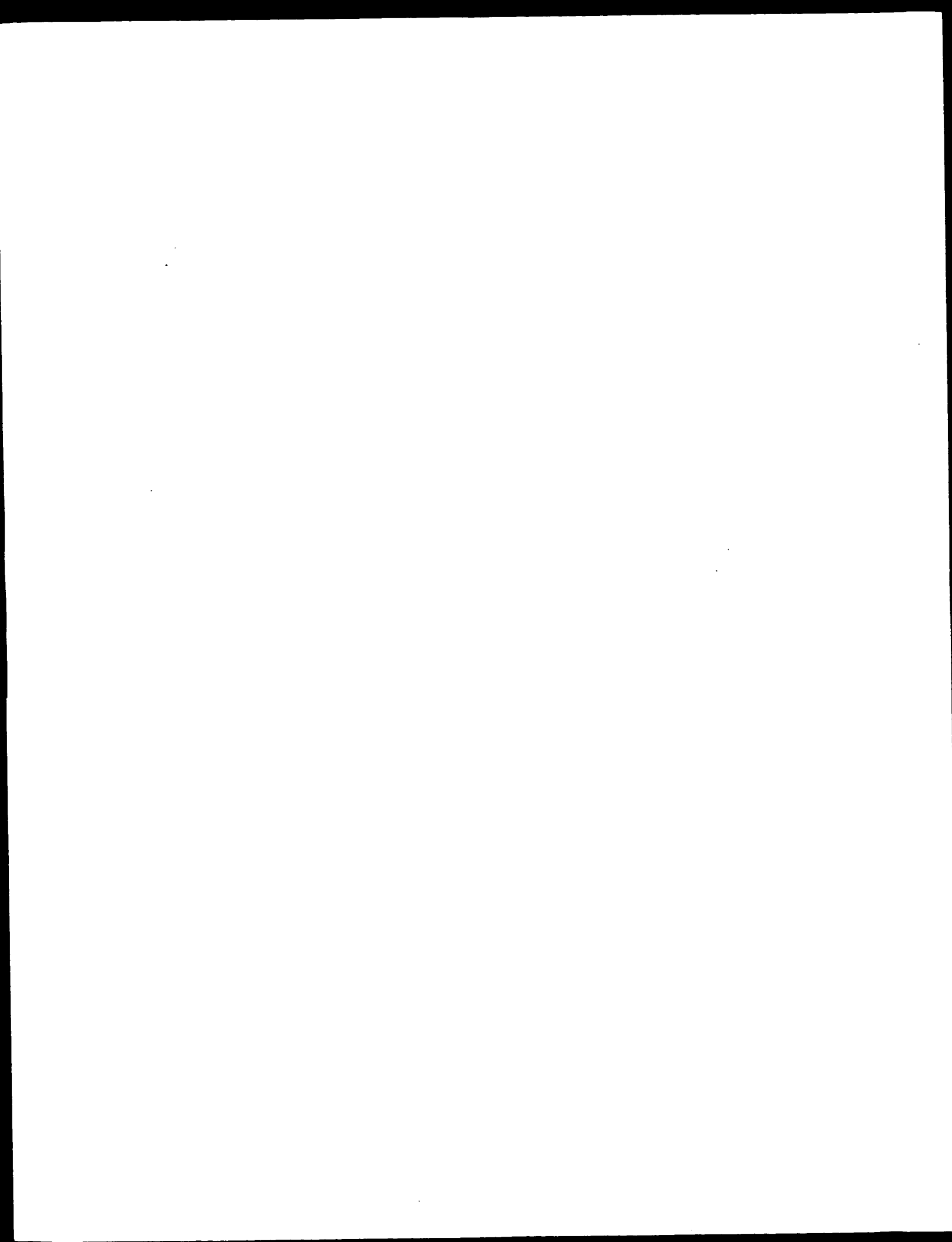
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Cys Pro Arg Phe	Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu	
	165	170 175
Phe Gln Lys Arg	Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly	
	180	185 190
Lys Leu Ser Gly	Leu His Gly Gln Asp Leu Phe Gly Ile Trp Ser Lys	
	195	200 205
Val Tyr Asp Pro	Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro	
	210	215 220
Ser Trp Ala Thr	Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu	
	225	230 235 240
Leu Ser Leu Leu	Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser	
	245	250 255
Arg Leu Gln Gly	Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys	
	260	265 270
Arg Ala Thr Gln	Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala	
	275	280 285
His Asp Thr Thr	Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn	
	290	295 300
Gly Leu Leu Pro	Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe	
	305	310 315 320
Glu Lys Gly Glu	Tyr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln	
	325	330 335
His Glu Pro Tyr	Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro	
	340	345 350
Leu Glu Arg Phe	Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp	
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Ser Thr Glu Cys	Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser	
	370	375 380
Thr Asp		
385		
<210> 475		
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<400> 475		
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Ala Ala Pro Leu	Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu	
	20	25 30

155

Val Ala Ser Arg Gly Arg Ala Val Cys Gly Gly Val Leu Val His Pro
 50 55 60
 Gln Trp Val Leu Thr Ala Ala His Cys Ile Arg Asn Lys Ser Val Ile
 65 70 75 80
 Leu Leu Gly Arg His Ser Leu Phe His Pro Glu Asp Thr Gly Gln Val
 85 90 95
 Phe Gln Val Ser His Ser Phe Pro His Pro Leu Tyr Asp Met Ser Leu
 100 105 110
 Leu Lys Asn Arg Phe Leu Arg Pro Gly Asp Asp Ser Ser His Asp Leu
 115 120 125
 Met Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu Thr Asp Ala Val Lys
 130 135 140
 Val Met Asp Leu Pro Thr Gln Glu Pro Ala Leu Gly Thr Thr Cys Tyr
 145 150 155 160
 Ala Ser Gly Trp Gly Ser Ile Glu Pro Glu Glu Phe Leu Thr Pro Lys
 165 170 175
 Lys Leu Gln Cys Val Asp Leu His Val Ile Ser Asn Asp Val Cys Ala
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 Gln Val His Pro Gln Lys Val Thr Lys Phe Met Leu Cys Ala Gly Arg
 195 200 205
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 210 215 220
 Val Cys Asn Gly Val Leu Gln Gly Ile Thr Ser Trp Gly Ser Glu Pro
 225 230 235 240
 Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val Val His Tyr
 245 250 255
 Arg Lys Trp Ile Lys Asp Thr Ile Val Ala Asn Pro Gly Ser Met Ala
 260 265 270
 Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile Leu Gly
 275 280 285
 Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly
 290 295 300
 Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
 305 310 315 320
 Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
 325 330 335
 Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
 340 345 350
 Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
 355 360 365
 Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
 370 375 380

Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
 385 390 395 400
 Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
 405 410 415
 Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
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 Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
 435 440 445
 Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
 450 455 460
 Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
 465 470 475 480
 Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
 485 490 495
 Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
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 Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser Glu Phe Met Val
 515 520 525
 Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala Gln Leu
 530 535 540
 Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu Ala Ala
 545 550 555 560
 Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu
 565 570 575
 Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly Leu Val
 580 585 590
 Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly Arg Tyr
 595 600 605
 Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile Leu Leu
 610 615 620
 Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu Leu Cys
 625 630 635 640
 Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly Val Gly
 645 650 655
 Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu Ala Leu
 660 665 670
 Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala Tyr Ser
 675 680 685
 Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr Leu Leu
 690 695 700
 Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu Gly Thr

705	710	715	720
Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu Thr Cys 725 730 735			
Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly Pro Thr 740 745 750			
Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His Cys Cys 755 760 765			
Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu Leu Pro 770 775 780			
Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg Arg Leu 785 790 800			
Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe Thr Leu 805 810 815			
Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg 820 825 830			
Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly Val Arg 835 840 845			
Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu Val Phe 850 855 860			
Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg Ala Val 865 870 880			
Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys 885 890 895			
Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu Thr Gly 900 905 910			
Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala Ser Leu 915 920 925			
Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly Asp Thr 930 935 940			
Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu Pro Gly 945 950 955 960			
Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala Gly Gly 965 970 975			
Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser Ala Cys 980 985 990			
Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala Arg Val 995 1000 1005			
Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp Ser Ala 1010 1015 1020			
Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser Ile Val 1025 1030 1035 1040			



Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala Gly Leu
 1045 1050 1055

Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp Lys Ser
 1060 1065 1070

Asp Leu Ala Lys Tyr Ser Ala
 1075

